



Alton Coal Development, LLC

463 North 100 West, Suite 1

Cedar City, Utah 84720

Phone (435) 867-5331 • Fax (435) 867-1192

August 11, 2011

Jon Black
Engineer
Major New Source Review Section
Utah Division of Air Quality
195 North 1950 West
Salt Lake City, UT 84114

RE: 2nd QT 2011 Report - Coal Hollow Mine
Project ID: N14047-0002

Dear Mr. Black,

Please find enclosed the Summary of PM₁₀ Data Collected at the Coal Hollow Mine, Utah during the Second Quarter, 2011 prepared by JBR Environmental Consultants, Inc for Alton Coal Development, LLC.

Please do not hesitate to contact me if you have any questions. I can be reached at (435) 867-5331 or (435) 691-1551.

Sincerely,

B. Kirk Nicholes
Environmental Specialist
Alton Coal Development, LLC

UTAH DEPARTMENT OF
ENVIRONMENTAL QUALITY

DIVISION OF AIR QUALITY

Alton Coal Development, LLC

Summary of PM₁₀ Data Collected at Coal Hollow Mine, Utah During the Second Quarter, 2011

Submitted to:

Utah Division of Environmental Quality
Division of Air Quality
195 North 1950 West
Salt Lake City, Utah
Contact: Jon Black

Prepared for:

Alton Coal Development, LLC.
463 N 100W, Suite1
Cedar City, Utah 84721
Contact: Kirk Nicholes
435.867.5331

Prepared by:

JBR Environmental Consultants, Inc.
7669 West Riverside Dr., Suite 101
Boise, ID 83714
Contact: Dave Strohm
208.853.0883

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Independent PM₁₀ Sampler Performance Audit Report

1.0 INTRODUCTION

This report summarizes measurements of Particulate Matter less than 10 microns nominal aerodynamic diameter (PM₁₀) collected and processed by Alton Coal Development, LLC., from the three monitoring stations located at the Coal Hollow Mine Facility in Alton, Utah. Monitoring for PM₁₀ is a condition of the mines operating permit.

PM₁₀ monitoring at the site consists of three BGI PQ200 PM₁₀ monitors run by solar power. Figure 2 of this report shows the approximate locations of the monitoring locations. The BGI PQ200 monitors are EPA Reference Method monitors and are operated on the National Particulate 1-in-6 Monitoring Schedule. The data summarized herein covers the data collected during the second quarter of 2011.

2.0 SITE LOCATION

The Coal Hollow Mine is located in Kane County, Utah, approximately three miles southeast of the town of Alton, Utah. Figure I on the following page gives an overview of the site location. Specifically the Coal Hollow Mine is located in Sections 19, 20, 29, and 30 of Township 39S, Range 5W; with an approximate facility location of:

Northing: 41401699 meters

Easting: 371534 meters

Universal Transverse Mercator (UTM) Datum NAD27, Zone 12

The two monitoring locations as depicted in Figure 2, are located in positions to collect both background and maximum PM₁₀ concentrations. The background monitor has a manufacturer's serial #962, therefore this monitor will be referred as monitor 962A. The compliance monitor has a manufacturer's serial #963, therefore this monitor will be referred as monitor 963B. The co-located monitor has a manufacturer's serial #964, therefore this monitor will be referred as monitor 964C. The compliance monitor and the co-located monitor coordinates are 37° 24' 5.04" North Latitude, 112° 27' 20.91" West Longitude, WGS84 Datum. The background monitor coordinates are 37° 24' 21.96" North Latitude, 112° 25' 59.97" West Longitude, WGS84 Datum.

Figure 1 - Site Location Map

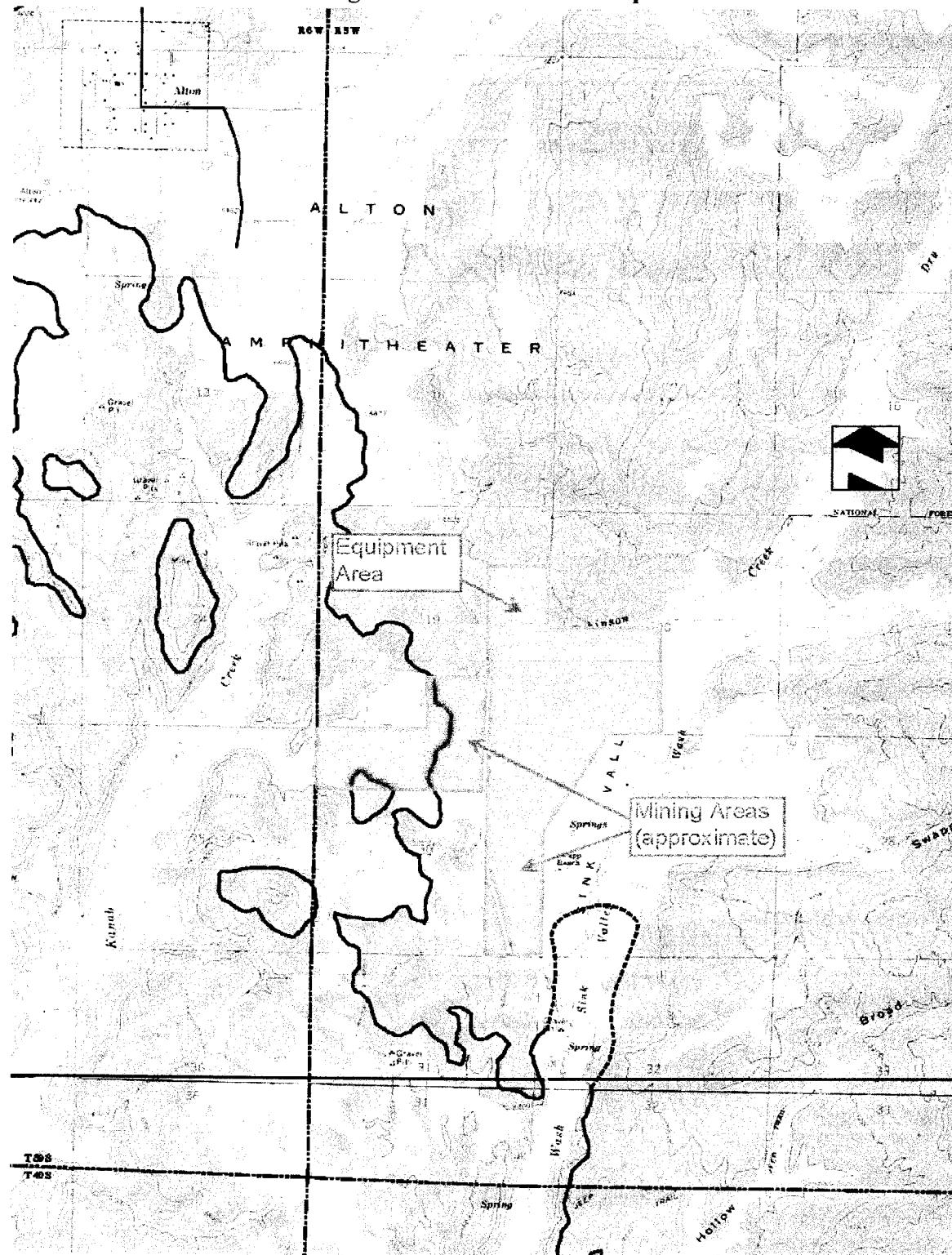
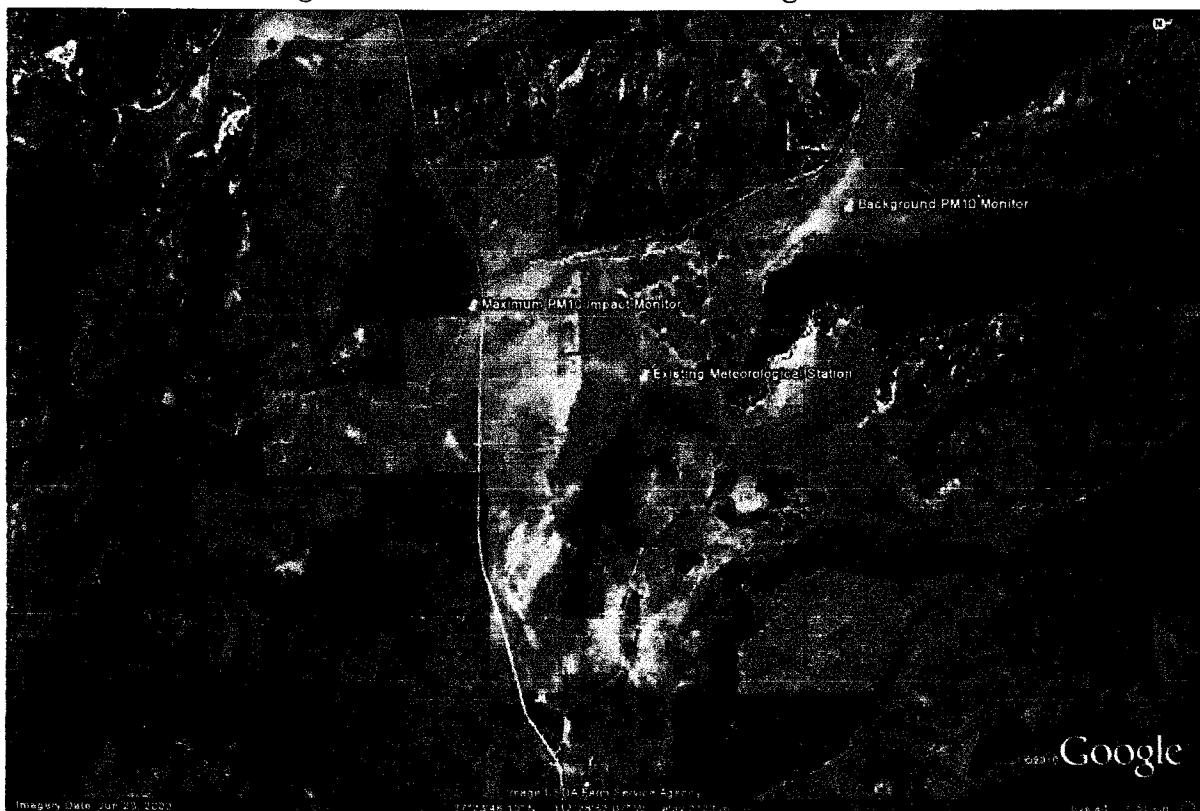


Figure 2 - Satellite View of Monitoring Locations



3.0 AIR QUALITY DATA SUMMARIES

A listing of the measured PM₁₀ concentrations for the quarter are presented in Appendix B, and Field Data Sheets generated during the collection of each sample are presented in Appendix D. Measurements were collected during a 24-hour periods and represent the average PM₁₀ concentration during the midnight to midnight data collection cycle. As required by the operating permit, duplicate measurements were made with Sampler #963B (designated as a compliance monitor) and Sampler #964C (designated as a co-located sampler). The quarterly mean PM₁₀ concentration and the comparison of measured concentrations to standards are based on measurements from the primary Sampler #963B. If a measurement from Sampler #963B was missing or invalid, the measurement from the secondary Sampler #964C was used.

The highest 24-hour mean PM₁₀ concentrations measured during the quarter from the two monitoring locations are summarized in Table I, Table II, and Table III. The three highest concentrations, # of valid samples, and the arithmetic mean concentrations from each of the sites are listed. All measured PM₁₀ concentrations were below the 24-hour National Ambient Air Quality Standard (NAAQS) of 150 µg/m³.

Table I - Summary of Measured PM₁₀ Concentrations (µg/m³)
Background Monitor - 962A

RANK	DATE	PM ₁₀ CONCENTRATION
Highest	4/15/11	21.9
2 nd Highest	5/15/11	14.4
Monthly Mean	4/1/11-4/30/11	9.4
Monthly Mean	5/1/11-5/31/11	8.58
Monthly Mean	6/1/11-6/30/11	8.48
Quarterly Mean	4/1/11-6/30/11 (14 valid samples)	8.8

Table II - Summary of Measured PM₁₀ Concentrations (µg/m³)
Compliance Monitor - 963B

RANK	DATE	PM ₁₀ CONCENTRATION
Highest	5/3/11	71.3
2 nd Highest	4/21/11	65.4
Monthly Mean	4/1/11-4/30/11	28.4
Monthly Mean	5/1/11-5/31/11	23.3
Monthly Mean	6/1/11-6/30/11	30.1
Quarterly Mean	4/1/11-6/30/11 (15 valid samples)	27.3

Table III - Summary of Measured PM₁₀ Concentrations (µg/m³)
Compliance Monitor – 964C

RANK	DATE	PM ₁₀ CONCENTRATION
Highest	5/3/11	68.5
2 nd Highest	6/2/11	60.4
Monthly Mean	4/1/11-4/30/11	32.1
Monthly Mean	5/1/11-5/31/11	23.6
Monthly Mean	6/1/11-6/30/11	38.4
Quarterly Mean	4/1/11-6/30/11 (13 valid samples)	30.6

Table IV – Mean Quarterly and Monthly Wind Speed

	2 nd Quarter 2011	April	May	June
Mean Wind Speed (m/s)	3.39	3.41	3.31	3.46

4.0 DATA RECOVERY AND QUALITY ASSURANCE

4.1 Data Recovery

Monitor 962A

Monitor 962A collected 14 of the 15 samples during the second quarter. The percent recovery for this quarter is 93.3%. During the second quarter of sampling one sample was not collected.

The sample which was scheduled to be collected on April 3, 2011 was not collected due to equipment malfunction (low battery shutdown). The low battery shutdown malfunction had been an operating problem with the monitors since startup. On April 7, the manufacturer of the monitors (BGI) instructed JBR to replace a 2 amp fuse with a 5 amp fuse which is located between the solar panel and external battery. The 2 amp fuse was blowing and causing

the external battery not to reach full charge, causing the low battery shutdown. The fuse was replaced and Monitor 962A has not shutdown due to a low battery since.

Monitor 963B

Monitor 963B collected 15 samples, of which 14 were in compliance with the 2011 U.S. EPA Ambient Particulate Monitoring Sample-Day Schedule. The percent recovery for this quarter is 93.3%. During the quarter one sample was not collected.

Through human error the monitor was programmed to collect a sample on 5/24/11 instead of the 2011 U.S. EPA Ambient Particulate Monitoring Sample-Day Scheduled date of 5/27/11. Although the monitor sampled on the wrong day, Alton Coal still had the sample analyzed for PM₁₀, with the results included in this report. The concentration data collected on 5/24/2011 was not used in this quarter's statistical analysis.

Monitor 964C

Monitor 964C collected 13 samples, of which 12 were in compliance with the 2011 U.S. EPA Ambient Particulate Monitoring Sample-Day Schedule. The percent recovery for this quarter is 80.0%. During the quarter three samples were not collected. The samples that were not collected occurred on April 3rd, May 24 and June 26. The reasons for the missed sampling dates are described below.

The sample which was scheduled to be collected on April 3, 2011 was not was not collected due to equipment malfunction (low battery shutdown). The low battery shutdown malfunction had been an operating problem with the monitors since startup. On April 7, the manufacturer of the monitors (BGI) instructed JBR to replace a 2 amp fuse with a 5 amp fuse which is located between the solar panel and external battery. The 2 amp fuse was blowing and causing the external battery not to reach full charge, causing the low battery shutdown. The fuse was replaced and Monitor 964C has not shutdown due to a low battery since.

Through human error the monitor was programmed to collect a sample on 5/24/11 instead of the 2011 U.S. EPA Ambient Particulate Monitoring Sample-Day Scheduled date of 5/27/11. Although the monitor sampled on the wrong day, Alton Coal still had the sample analyzed for PM₁₀, with the results included in this report. The concentration data collected on 5/24/2011 was not used in this quarter's statistical analysis.

The sample which was scheduled to be collected on June 26, 2011 was not was not collected due to equipment malfunction. When collecting the sample after the scheduled run and reviewing the run data it is evident the sampler did not run for the complete 24 hour period.

Personnel from Alton Coal, at the request of BGI, reset and restarted the monitor and the monitor has been running correctly since.

The PM₁₀ data recoveries for the three monitoring stations are presented below:

Table V - Summary of Data Recovery

SAMPLER	POSSIBLE SAMPLES	VALID SAMPLES	PERCENT DATA RECOVERY
962A	15	14	93.3%
963B	15	14	93.3%
964C	15	12	80.0%

4.2 Quality Assurance

Quality assurance procedures utilized to verify the integrity of the measured PM₁₀ data included the following:

1. Review of PM₁₀ precision measurements based upon duplicate, collocated measurements.
2. Independent quarterly audits of the PM₁₀ samplers.
3. Monthly zero and single point flow rate checks of the PM₁₀ samplers.

4.2.1 Precision of PM₁₀ Measurements

The precision of the PM₁₀ measurements was determined from the duplicate samples collected from the collocated BGI PQ200 Monitors 963B and 964C. As recommended in 40 CFR, Part 58, Appendix A, Section 5.3.1, PM₁₀ precision checks are reported for instances when the concentrations for duplicate samples both exceed 3 µg/m³. Duplicate samples that did not meet this condition were omitted for the purposes of the precision checks. Appendix C, of this report summarizes precision calculations between the compliance monitor and the co-located monitor. Monthly flow rate verification data is also in Appendix C.

Precision calculations were developed based on 11 valid pairs of co-located monitoring data during the second quarter. Single point precision based on 40 CFR, Part 58, Appendix A

Equation 10 ranged from 22% to -43% with the majority of precision values occurring in the 10% to -10% range. The aggregate coefficient of variability(CV) calculated in accordance with *40 CFR, Part 58*, Appendix A Equation 11 is 16.72%. This value is above the 10% goal for aggregate CV. The value for quarter 2 CV was significantly impacted by the two outlier values of 22% and -43%. Additionally, the CV values it typically reviewed on an annual basis for assessment of overall measurement error. As a result, the CV goal exceedance should be noted but is unlikely to significantly affect annual CV or overall project error.

4.2.2 Audit Results

The accuracy of the PM₁₀ sampler flows was verified by a performance audit conducted by Applied Environmental Consultants on July 12, 2011. A copy of the audit report is presented in Appendix E and is summarized in Table VI. The audit results indicate that the three samplers were operating properly.

Table VI - Audit Summary

SAMPLER	AUDIT % DIFFERENCE	LIMIT*	DESIGN % DIFFERENCE	LIMIT*
962A	0.0	±4%	0.0	± 5%
963B	-3.5	±4%	-3.5	± 5%
964C	2.3	±4%	2.3	± 5%
*Values between ± 7% and ± 10% require recalibration but no data are invalidated.				

4.2.3 Zero and Single Point Flow Rate Checks

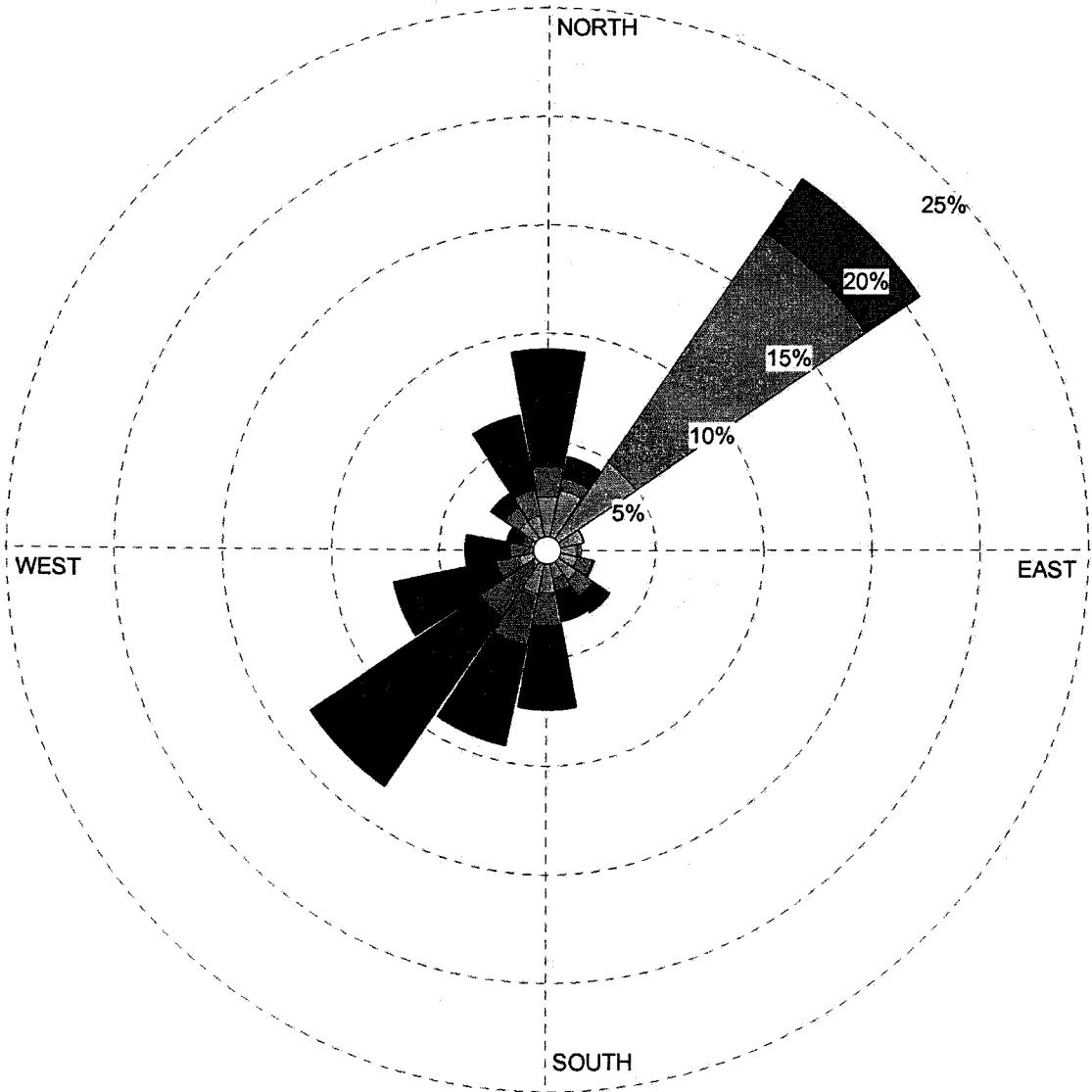
Zero and single-point flow rate verifications are performed by a site technician on a monthly basis. The data was then input into a statistical calculator to calculate percent difference and bias between each of the monitors and the monthly single point flow rate measured by a NIST traceable calibration orifice. The calculator used is called the “Data Assessment Statistical Calculator” DASC Tool. DASC was developed for the data user community and can be found in the Precision and Accuracy Reporting System within the Quality Assurance section of EPA’s Ambient Monitoring Technology Information System. This data is presented in Appendix C of this report.

APPENDIX A

Windrose

WIND ROSE PLOT:

Alton Coal Development, Alton, Utah
2nd Quarter 2011



WIND SPEED
(m/s)

≥ 11.1
8.8 - 11.1
5.7 - 8.8
3.6 - 5.7
2.1 - 3.6
0.5 - 2.1

Calms: 1.05%

Station ID: 12345
Year: 2011
Date Range: Apr 1 - Jun 30
Time Range: 00:00 - 23:00

April through June Windrose.txt
Run ID:

Frequency Distribution
(Count)

Speed m/s

Wind Direction >= 11.1	Total	0.5 - 2.1	2.1 - 3.6	3.6 - 5.7	5.7 - 8.8	8.8 -
348.75 - 11.25	202	54	30	85	33	
11.25 - 33.75	96	62	12	21	1	
33.75 - 56.25	452	107	279	66	0	
56.25 - 78.75	38	37	1	0	0	
78.75 - 101.25	34	30	4	0	0	
101.25 - 123.75	48	31	15	2	0	
123.75 - 146.25	76	36	20	20	0	
146.25 - 168.75	73	29	13	28	3	
168.75 - 191.25	43	33	57	28		
191.25 - 213.75	161	45	53	67	33	
213.75 - 236.25	201	18	63	159	49	
236.25 - 258.75	289	29	23	89	17	
258.75 - 281.25	158	18	20	35	10	
281.25 - 303.75	83	17	9	11	5	
303.75 - 326.25	42	35	17	15	2	
326.25 - 348.75	69	36	26	45	32	
Sub-Total:	139	627	618	700	213	
Calms:	0	2161				
Missing/Incomplete:	23					
Total:	0					
	2184					

Frequency of Calm winds: 1.05%
Average Wind Speed: 3.39 m/s

Station ID: 12345
Year: 2011

Run ID:

April through June Windrose.txt

Date Range: Apr 1 - Jun 30
 Time Range: 00:00 - 23:00

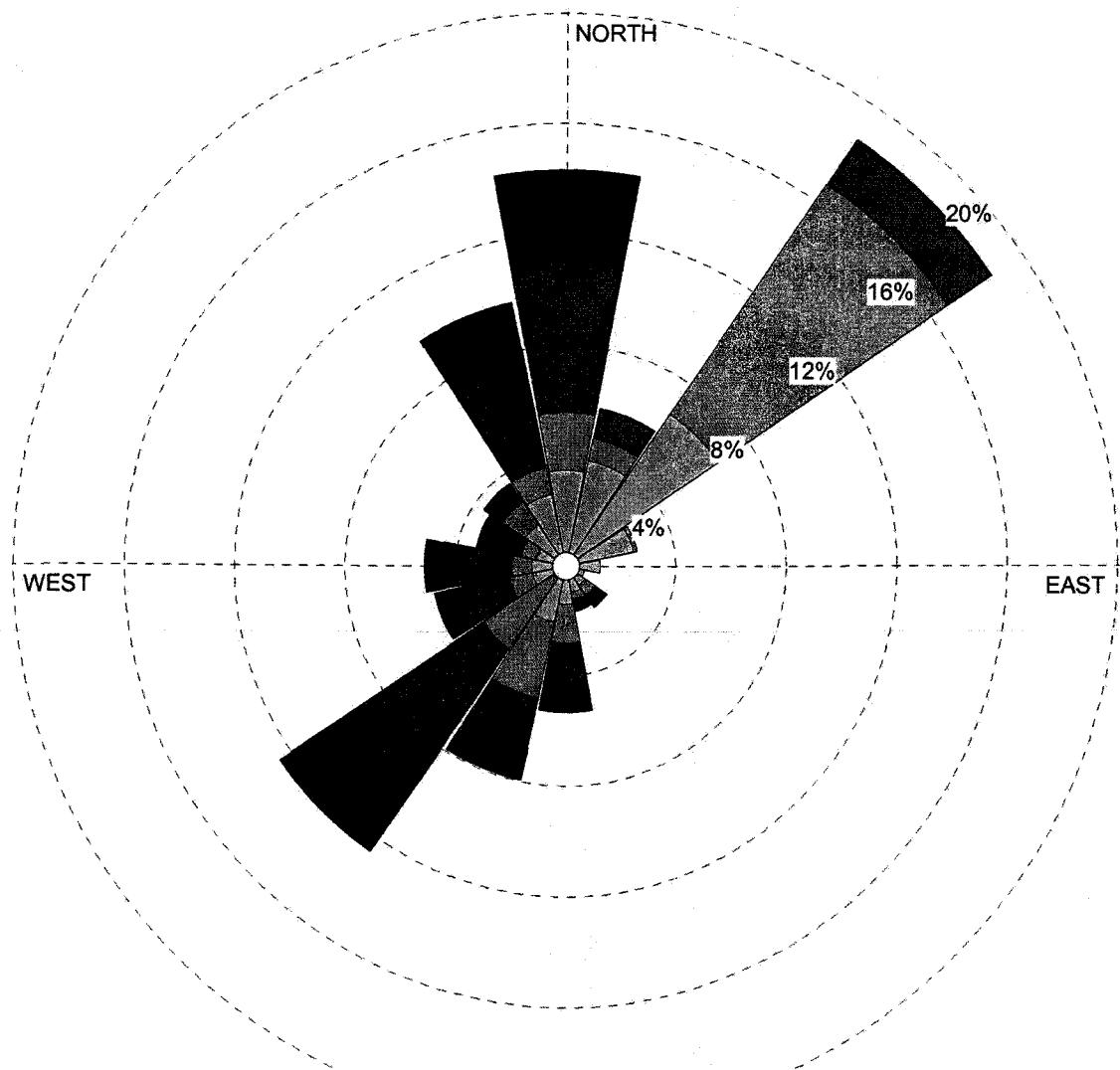
Frequency Distribution
(Normalized)

Wind Direction 11.1 >= 11.1	Total	Speed m/s					
		0.5 - 2.1	2.1 - 3.6	3.6 - 5.7	5.7 - 8.8	8.8 -	
348.75 - 11.25	0.024725	0.013736	0.038919	0.015110			
0.000000	0.092491						
11.25 - 33.75	0.028388	0.005495	0.009615	0.000458			
0.000000	0.043956						
33.75 - 56.25	0.048993	0.127747	0.030220	0.000000			
0.000000	0.206960						
56.25 - 78.75	0.016941	0.000458	0.000000	0.000000			
0.000000	0.017399						
78.75 - 101.25	0.013736	0.001832	0.000000	0.000000			
0.000000	0.015568						
101.25 - 123.75	0.014194	0.006868	0.000916	0.000000			
0.000000	0.021978						
123.75 - 146.25	0.016484	0.009158	0.009158	0.000000			
0.000000	0.034799						
146.25 - 168.75	0.013278	0.005952	0.012821	0.001374			
0.000000	0.033425						
168.75 - 191.25	0.019689	0.015110	0.026099	0.012821			
0.000000	0.073718						
191.25 - 213.75	0.020604	0.024267	0.030678	0.015110			
0.001374	0.092033						
213.75 - 236.25	0.008242	0.028846	0.072802	0.022436			
0.000000	0.132326						
236.25 - 258.75	0.013278	0.010531	0.040751	0.007784			
0.000000	0.072344						
258.75 - 281.25	0.008242	0.009158	0.016026	0.004579			
0.000000	0.038004						
281.25 - 303.75	0.007784	0.004121	0.005037	0.002289			
0.000000	0.019231						
303.75 - 326.25	0.016026	0.007784	0.006868	0.000916			
0.000000	0.031593						
326.25 - 348.75	0.016484	0.011905	0.020604	0.014652			
0.000000	0.063645						
Sub-Total:	0.287088	0.282967	0.320513	0.097527			
0.001374	0.989469						
Calms:		0.010531					
Missing/Incomplete:		0.000000					
Total:		1.000000					

Frequency of Calm Winds: 1.05%
 Average Wind Speed: 3.39 m/s

WIND ROSE PLOT:

Alton Coal Development, Alton, Utah
April 2011



WIND SPEED
(m/s)

≥ 11.1
8.8 - 11.1
5.7 - 8.8
3.6 - 5.7
2.1 - 3.6
0.5 - 2.1

Calms: 0.83%

Station ID: 12345
Year: 2011
Date Range: Apr 1 - Apr 30
Time Range: 00:00 - 23:00

April 2011.txt
Run ID:

Frequency Distribution
(Count)

Wind Direction >= 11.1	Total	Speed m/s							
		0.5 - 2.1	2.1 - 3.6	3.6 - 5.7	5.7 - 8.8	8.8 - 11.1	11.1 - 13.75	13.75 - 16.25	16.25 - 18.75
348.75 - 11.25	103	25	15	39	24	0	0	0	0
11.25 - 33.75	42	28	6	8	0	0	0	0	0
33.75 - 56.25	134	48	72	14	0	0	0	0	0
56.25 - 78.75	19	18	1	0	0	0	0	0	0
78.75 - 101.25	9	9	0	0	0	0	0	0	0
101.25 - 123.75	5	5	0	0	0	0	0	0	0
123.75 - 146.25	13	6	3	4	0	0	0	0	0
146.25 - 168.75	12	7	2	3	0	0	0	0	0
168.75 - 191.25	38	10	10	11	7	0	0	0	0
191.25 - 213.75	57	15	20	16	6	0	0	0	0
213.75 - 236.25	90	4	22	42	22	0	0	0	0
236.25 - 258.75	35	9	6	13	7	0	0	0	0
258.75 - 281.25	37	9	5	15	8	0	0	0	0
281.25 - 303.75	24	8	4	7	5	0	0	0	0
303.75 - 326.25	26	13	7	6	0	0	0	0	0
326.25 - 348.75	70	19	7	27	17	0	0	0	0
Sub-Total:	714	233	180	205	96	0	0	0	0
Calms:	6	0	0	0	0	0	0	0	0
Missing/Incomplete:	0	0	0	0	0	0	0	0	0
Total:	720	0	0	0	0	0	0	0	0

Frequency of Calm Winds: 0.83%
Average Wind Speed: 3.41 m/s

Station ID: 12345
Year: 2011

Run ID:

April 2011.txt

Date Range: Apr 1 - Apr 30
 Time Range: 00:00 - 23:00

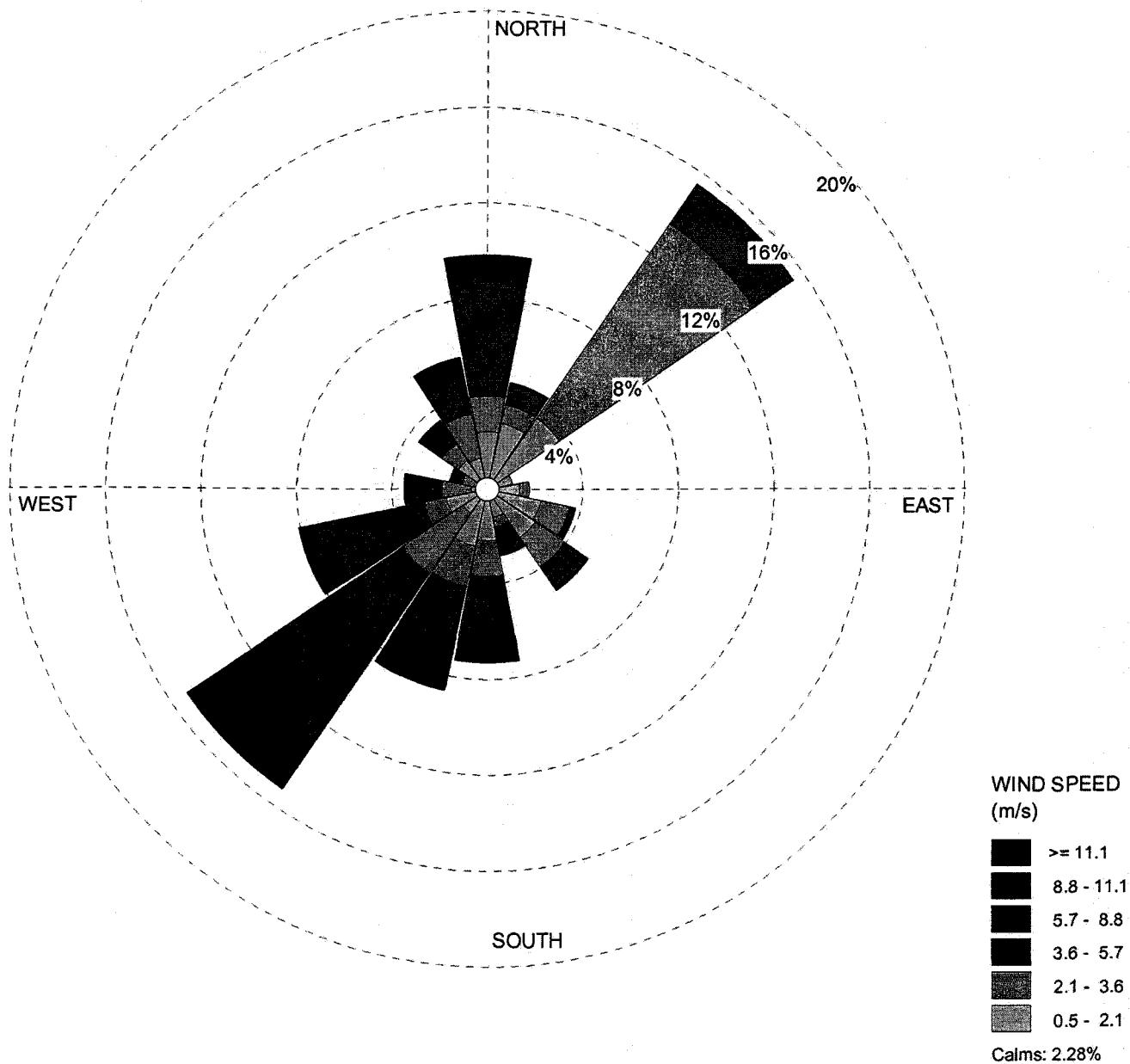
Frequency Distribution
(Normalized)

Wind Direction 11.1 => 11.1	Total	Speed m/s				
		0.5 - 2.1	2.1 - 3.6	3.6 - 5.7	5.7 - 8.8	8.8 -
348.75 - 11.25	0.034722	0.020833	0.054167	0.033333		
0.000000 0.000000	0.143056					
11.25 - 33.75	0.038889	0.008333	0.011111	0.000000		
0.000000 0.000000	0.058333					
33.75 - 56.25	0.066667	0.100000	0.019444	0.000000		
0.000000 0.000000	0.186111					
56.25 - 78.75	0.025000	0.001389	0.000000	0.000000		
0.000000 0.000000	0.026389					
78.75 - 101.25	0.012500	0.000000	0.000000	0.000000		
0.000000 0.000000	0.012500					
101.25 - 123.75	0.006944	0.000000	0.000000	0.000000		
0.000000 0.000000	0.006944					
123.75 - 146.25	0.008333	0.004167	0.005556	0.000000		
0.000000 0.000000	0.018056					
146.25 - 168.75	0.009722	0.002778	0.004167	0.000000		
0.000000 0.000000	0.016667					
168.75 - 191.25	0.013889	0.013889	0.015278	0.009722		
0.000000 0.000000	0.052778					
191.25 - 213.75	0.020833	0.027778	0.022222	0.008333		
0.000000 0.000000	0.079167					
213.75 - 236.25	0.005556	0.030556	0.058333	0.030556		
0.000000 0.000000	0.125000					
236.25 - 258.75	0.012500	0.008333	0.018056	0.009722		
0.000000 0.000000	0.048611					
258.75 - 281.25	0.012500	0.006944	0.020833	0.011111		
0.000000 0.000000	0.051389					
281.25 - 303.75	0.011111	0.005556	0.009722	0.006944		
0.000000 0.000000	0.033333					
303.75 - 326.25	0.018056	0.009722	0.008333	0.000000		
0.000000 0.000000	0.036111					
326.25 - 348.75	0.026389	0.009722	0.037500	0.023611		
0.000000 0.000000	0.097222					
Sub-Total:	0.323611	0.250000	0.284722	0.133333		
0.000000 0.000000	0.991667					
Calms:	0.008333					
Missing/Incomplete:	0.000000					
Total:	1.000000					

Frequency of Calm winds: 0.83%
 Average Wind Speed: 3.41 m/s

WIND ROSE PLOT:

Alton Coal Development, Alton, Utah
May 2011



Station ID: 12345
Year: 2011
Date Range: May 1 - May 31
Time Range: 00:00 - 23:00

May 2011.txt
Run ID:

Frequency Distribution
(Count)

Wind Direction >= 11.1	Total	Speed m/s							
		0.5 - 1	2.1	2.1 - 3.6	3.6 - 5.7	5.7 - 8.8	8.8 - 11.1	11.1 - 12.5	12.5 - 14.0
348.75 - 11.25	0	73	18	11	37	7			
11.25 - 33.75	0	34	21	6	7	0			
33.75 - 56.25	0	115	27	73	15	0			
56.25 - 78.75	0	8	8	0	0	0			
78.75 - 101.25	0	13	10	3	0	0			
101.25 - 123.75	0	28	17	9	2	0			
123.75 - 146.25	0	38	18	11	9	0			
146.25 - 168.75	0	21	9	3	9	0			
168.75 - 191.25	0	54	16	11	22	5			
191.25 - 213.75	0	64	18	13	19	13			
213.75 - 236.25	0	113	9	23	65	16			
236.25 - 258.75	0	60	13	7	36	4			
258.75 - 281.25	0	26	5	9	10	2			
281.25 - 303.75	0	12	3	5	4	0			
303.75 - 326.25	0	26	11	6	7	2			
326.25 - 348.75	0	42	10	14	11	7			
Sub-Total:		727	213	204	253	56			
Calms:		17							
Missing/Incomplete:		0							
Total:		744							

Frequency of Calm Winds: 2.28%
Average Wind Speed: 3.31 m/s

Station ID: 12345
Year: 2011

Run ID:

May 2011.txt

Date Range: May 1 - May 31
 Time Range: 00:00 - 23:00

Frequency Distribution
(Normalized)

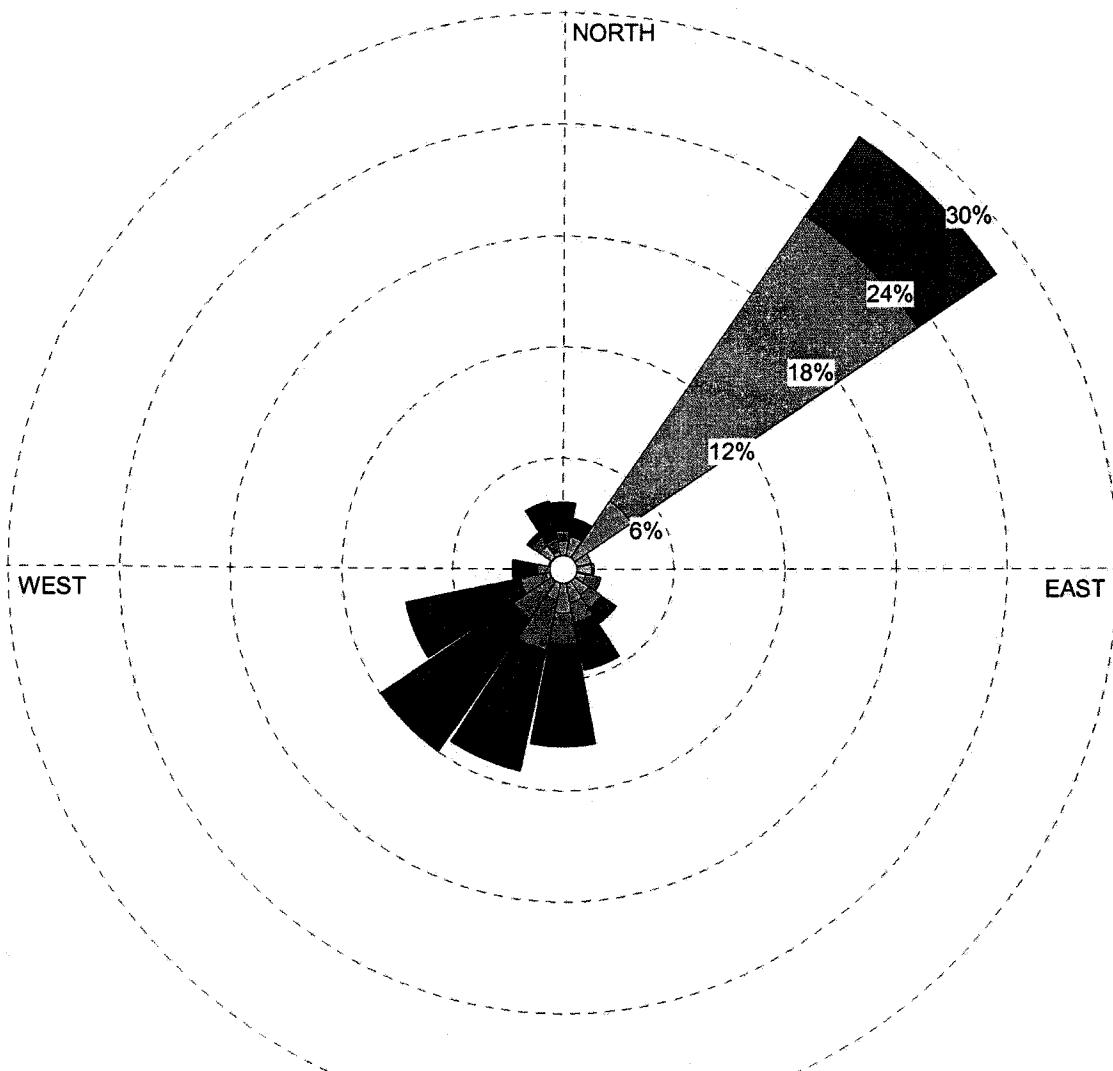
Wind Direction 11.1 >= 11.1	Total	Speed m/s					
		0.5 - 2.1	2.1 - 3.6	3.6 - 5.7	5.7 - 8.8	8.8 -	
348.75 - 11.25	0.024194	0.014785	0.049731	0.009409			
0.000000	0.000000	0.098118					
11.25 - 33.75	0.028226	0.008065	0.009409	0.000000			
0.000000	0.000000	0.045699					
33.75 - 56.25	0.036290	0.098118	0.020161	0.000000			
0.000000	0.000000	0.154570					
56.25 - 78.75	0.010753	0.000000	0.000000	0.000000			
0.000000	0.000000	0.010753					
78.75 - 101.25	0.013441	0.004032	0.000000	0.000000			
0.000000	0.000000	0.017473					
101.25 - 123.75	0.022849	0.012097	0.002688	0.000000			
0.000000	0.000000	0.037634					
123.75 - 146.25	0.024194	0.014785	0.012097	0.000000			
0.000000	0.000000	0.051075					
146.25 - 168.75	0.012097	0.004032	0.012097	0.000000			
0.000000	0.000000	0.028226					
168.75 - 191.25	0.021505	0.014785	0.029570	0.006720			
0.000000	0.000000	0.072581					
191.25 - 213.75	0.024194	0.017473	0.025538	0.017473			
0.001344	0.000000	0.086022					
213.75 - 236.25	0.012097	0.030914	0.087366	0.021505			
0.000000	0.000000	0.151882					
236.25 - 258.75	0.017473	0.009409	0.048387	0.005376			
0.000000	0.000000	0.080645					
258.75 - 281.25	0.006720	0.012097	0.013441	0.002688			
0.000000	0.000000	0.034946					
281.25 - 303.75	0.004032	0.006720	0.005376	0.000000			
0.000000	0.000000	0.016129					
303.75 - 326.25	0.014785	0.008065	0.009409	0.002688			
0.000000	0.000000	0.034946					
326.25 - 348.75	0.013441	0.018817	0.014785	0.009409			
0.000000	0.000000	0.056452					
Sub-Total:	0.286290	0.274194	0.340054	0.075269			
0.001344	0.000000	0.977151					
Calms:	0.022849						
Missing/Incomplete:	0.000000						
Total:	1.000000						

Frequency of Calm winds: 2.28%
 Average Wind Speed: 3.31 m/s

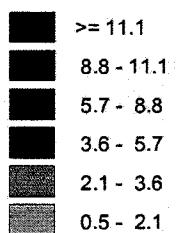
WIND ROSE PLOT:

Alton Coal Development, Alton, Utah

June 2011



WIND SPEED
(m/s)



Calms: 0.00%

Station ID: 12345
Year: 2011
Date Range: Jun 1 - Jun 30
Time Range: 00:00 - 23:00

June 2011.txt
Run ID:

Frequency Distribution
(Count)

Wind Direction >= 11.1	Total	Speed m/s							
		0.5 - 2.1	2.1 - 3.6	3.6 - 5.7	5.7 - 8.8	8.8 - 11.1	11.1 - 12.5	12.5 - 14.0	14.0 - 15.5
348.75 - 11.25	26	11	4	9	2	0	0	0	0
11.25 - 33.75	20	13	0	6	1	0	0	0	0
33.75 - 56.25	203	32	134	37	0	0	0	0	0
56.25 - 78.75	11	11	0	0	0	0	0	0	0
78.75 - 101.25	12	11	1	0	0	0	0	0	0
101.25 - 123.75	15	9	6	0	0	0	0	0	0
123.75 - 146.25	25	12	6	7	0	0	0	0	0
146.25 - 168.75	40	13	8	16	3	0	0	0	0
168.75 - 191.25	69	17	12	24	16	0	0	0	0
191.25 - 213.75	80	12	20	32	14	0	0	0	0
213.75 - 236.25	86	5	18	52	11	0	0	0	0
236.25 - 258.75	63	7	10	40	6	0	0	0	0
258.75 - 281.25	20	4	6	10	0	0	0	0	0
281.25 - 303.75	6	6	0	0	0	0	0	0	0
303.75 - 326.25	17	11	4	2	0	0	0	0	0
326.25 - 348.75	27	7	5	7	8	0	0	0	0
Sub-Total:	720	181	234	242	61	0	0	0	0
Calms:	0	0	0	0	0	0	0	0	0
Missing/Incomplete:	0	0	0	0	0	0	0	0	0
Total:	720	0	0	0	0	0	0	0	0

Frequency of Calm Winds: 0.00%
Average Wind Speed: 3.46 m/s

Station ID: 12345
Year: 2011

Run ID:

June 2011.txt

Date Range: Jun 1 - Jun 30
 Time Range: 00:00 - 23:00

Frequency Distribution
(Normalized)

Speed m/s

Wind Direction 11.1 >= 11.1	Total	0.5 - 2.1	2.1 - 3.6	3.6 - 5.7	5.7 - 8.8	8.8 -
348.75 - 11.25 0.000000	0.000000	0.015278 0.036111	0.005556	0.012500	0.002778	
11.25 - 33.75 0.000000	0.000000	0.018056 0.027778	0.000000	0.008333	0.001389	
33.75 - 56.25 0.000000	0.000000	0.044444 0.281944	0.186111	0.051389	0.000000	
56.25 - 78.75 0.000000	0.000000	0.015278 0.015278	0.000000	0.000000	0.000000	
78.75 - 101.25 0.000000	0.000000	0.015278 0.016667	0.001389	0.000000	0.000000	
101.25 - 123.75 0.000000	0.000000	0.012500 0.020833	0.008333	0.000000	0.000000	
123.75 - 146.25 0.000000	0.000000	0.016667 0.034722	0.008333	0.009722	0.000000	
146.25 - 168.75 0.000000	0.000000	0.018056 0.055556	0.011111	0.022222	0.004167	
168.75 - 191.25 0.000000	0.000000	0.023611 0.095833	0.016667	0.033333	0.022222	
191.25 - 213.75 0.002778	0.000000	0.016667 0.111111	0.027778	0.044444	0.019444	
213.75 - 236.25 0.000000	0.000000	0.006944 0.119444	0.025000	0.072222	0.015278	
236.25 - 258.75 0.000000	0.000000	0.009722 0.087500	0.013889	0.055556	0.008333	
258.75 - 281.25 0.000000	0.000000	0.005556 0.027778	0.008333	0.013889	0.000000	
281.25 - 303.75 0.000000	0.000000	0.008333 0.008333	0.000000	0.000000	0.000000	
303.75 - 326.25 0.000000	0.000000	0.015278 0.023611	0.005556	0.002778	0.000000	
326.25 - 348.75 0.000000	0.000000	0.009722 0.037500	0.006944	0.009722	0.011111	
Sub-Total: 0.002778	0.000000	0.251389 1.000000	0.325000	0.336111	0.084722	
Calms:		0.000000				
Missing/Incomplete:		0.000000				
Total:		1.000000				

Frequency of Calm winds: 0.00%
 Average Wind Speed: 3.46 m/s

APPENDIX B

Listing of PM₁₀ Concentrations

Background Monitor 962A

PM₁₀ Sampler Summary**April 1, 2011 - June 30, 2011**

Network: Alton Coal Development, LLC
Site: Coal Hollow Mine
Sampler ID: 962A
AQS ID:
Sampler Type: BGI FRM Single

Date	Filter ID	Concentration LTP (\mu g/m ³)	Concentration STP (\mu g/m ³)	Sample Period (hr:min)	Sample Volume (m ³)	Std Volume (m ³)	Tare	Gross	Mass (mg)	Net	Flag	Comments
04/03/11	P0072338	Invalid - AV	Invalid - AV	6:43	6.7	5.4	149.608	149.690	0.082	SP		
04/09/11	P0072341	2.3	2.8	23:58	24.0	20.2	146.839	146.895	0.056			
04/15/11	P0072918	18.1	21.9	23:59	24.0	19.8	147.323	147.758	0.435			
04/21/11	P0072921	7.7	9.5	23:59	24.0	19.5	149.116	149.301	0.185			
04/27/11	P0072924	2.8	3.4	23:59	24.0	19.9	147.720	147.787	0.067			
05/03/11	P0073527	5.8	7.1	23:59	24.0	19.7	142.730	142.870	0.140			
05/09/11	P0073530	3.3	4.0	23:59	24.0	19.8	145.937	146.016	0.079			
05/15/11	P0198551	11.5	14.4	23:59	24.0	19.2	147.046	147.323	0.277			
05/21/11	P0198555	4.6	5.7	23:59	24.0	19.5	147.286	147.397	0.111			
05/27/11	P0198690	9.3	11.7	23:59	24.0	19.2	141.507	141.731	0.224			
06/02/11	P0198693	7.4	9.2	23:59	24.0	19.5	146.162	146.341	0.179			
06/08/11	P0198834	8.7	10.8	23:59	24.0	19.3	140.761	140.969	0.208			
06/14/11	P0198837	7.8	9.8	23:59	24.0	19.1	139.123	139.310	0.187			
06/20/11	P0199450	3.5	4.4	23:59	24.0	19.2	145.272	145.356	0.084			
06/26/11	P0199753	6.5	8.2	23:59	24.0	19.1	145.007	145.164	0.157			
	# Valid	Recovery	Average				St. Dev.	Max	Min			
	14	93.3%	8.8				5.1	21.9	2.8			

BGI PQ200 Air Sampling System

Downloaded 2011 04 apr 13:12:40

Job Details:

Job Name: 11Apr04A.JOB

Version: 5.62

Serial No: 962

Pump Time: 156:35

Flags: P T

Job Code:

Site Name: 962A

Station Code:

Operators: kn

User1:

User2:

	Max	Min	Avg	Units
BP	579	576	577	mmHg
TA	12.2	7.1	9.5	°C
Q	---	---	16.71	Lpm

QCV 0.09 %

 Max overheat 2.8 °C
 occurred 03-apr 07:46:22

Timer Information:

Date dd-mmm	Time hh:mm:ss
Start: 11-03-apr	0:00:08
Stop: 11-03-apr	23:59:13

ET: 6:43

Mass Concentration Data:

Filter ID: IML8

Final Wt: mg

Initial Wt: mg

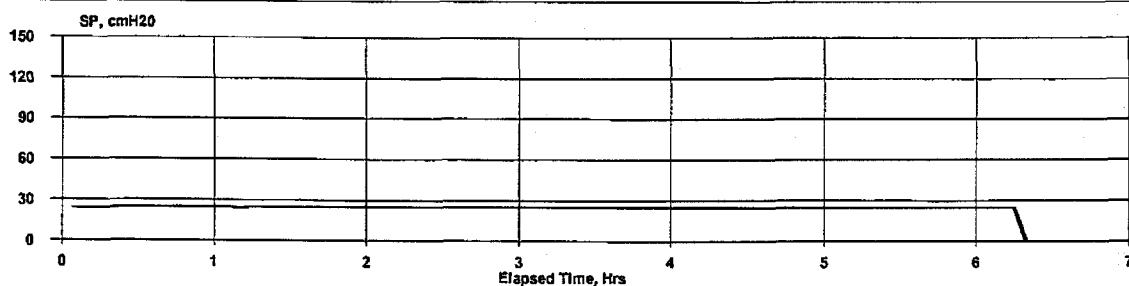
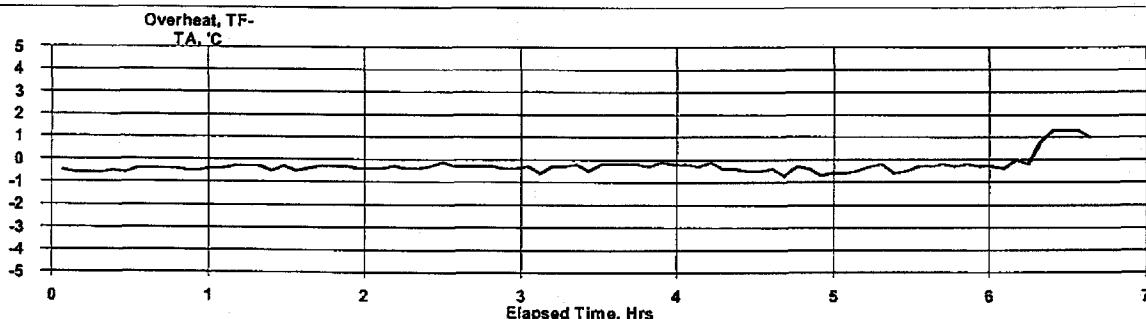
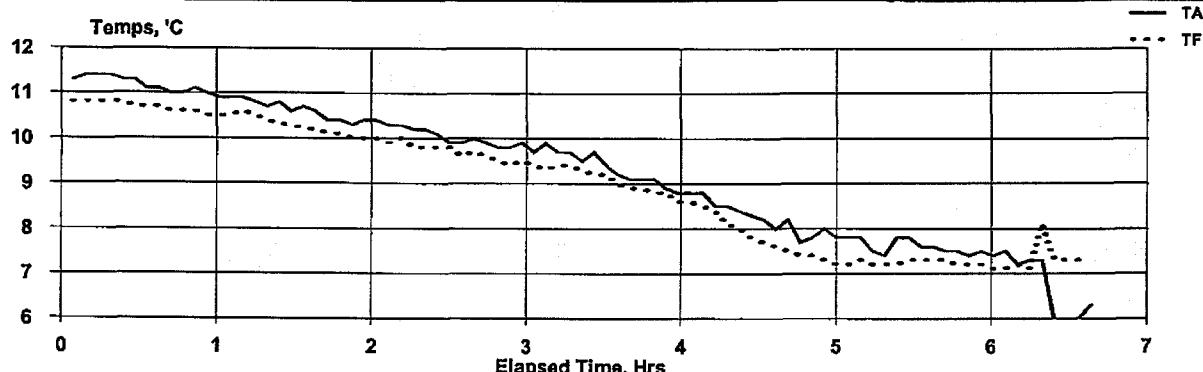
Delta Wt: 0.000 mg

Total Vol: 6.735 m^3

Mass Conc: 0 µg/m³

Notes 1:

Notes 2:



Hourly

11-03-apr	0:05:08	579	11.2	10.7	-0.5	25	16.73
11-03-apr	1:05:08	579	10.7	10.3	-0.4	25	16.72
11-03-apr	2:05:08	578	10.1	9.8	-0.3	25	16.72
11-03-apr	3:05:08	578	9.6	9.2	-0.3	25	16.72
11-03-apr	4:05:08	577	8.5	8.2	-0.3	25	16.71
11-03-apr	5:05:08	577	7.7	7.3	-0.4	25	16.73
11-03-apr	6:05:08	577	7.4	7.2	-0.2	25	16.71
11-04-apr	13:04:05	588	6.3	7.5	1.1		0.00

BGI PQ200 Air Sampling System

Downloaded 2011 11 apr 09:02:33

Job Details:				Job Code: Site Name: 962A Station Code: Operators: kn User1: User2:	
Job Name: 11Apr11A.JOB Version: 5.62 Serial No: 962 Pump Time: 180:33 Flags:					
BP	Max 581	Min 572	Avg 575	Units mmHg	
TA	-1.2	-7.7	-4.6	°C	
Q	---	---	16.72	Lpm	
QCV 0.49 %					
Max overheat 5.3 °C occurred 09-apr 14:01:58					
				Timer Information:	
				Date dd-mmm Start: 11-09-apr Stop: 11-09-apr	Time hh:mm:ss 0:00:08 23:59:05
				ET: 23:58	
				Mass Concentration Data:	
				Filter ID: IML15	
				Final Wt:	mg
				Initial Wt:	mg
				Delta Wt: 0.000	mg
				Total Vol: 24.027	m³
				Mass Conc: 0	µg/m³
Notes 1:					
Notes 2:					
<p>Temps, °C</p> <p>Legend: TA (solid line), TF (dotted line)</p> <p>Y-axis: -8 to 4</p> <p>X-axis: Elapsed Time, Hrs (0 to 25)</p>					
<p>Overheat, TF - TA, °C</p> <p>Y-axis: -8 to 6</p> <p>X-axis: Elapsed Time, Hrs (0 to 25)</p>					
<p>SP, cmH2O</p> <p>Y-axis: 0 to 150</p> <p>X-axis: Elapsed Time, Hrs (0 to 25)</p>					

Hourly

11-09-apr	0:05:08	574	-5.0	-4.9	0.1	30	16.72
11-09-apr	1:05:08	574	-4.8	-4.7	0.2	31	16.72
11-09-apr	2:05:08	573	-4.9	-4.7	0.2	31	16.73
11-09-apr	3:05:08	573	-4.9	-4.7	0.2	31	16.73
11-09-apr	4:05:08	573	-5.2	-4.9	0.4	31	16.72
11-09-apr	5:05:08	573	-5.4	-4.9	0.4	31	16.72
11-09-apr	6:05:08	573	-5.4	-5.1	0.3	31	16.73
11-09-apr	7:05:08	574	-5.5	-5.2	0.3	31	16.72
11-09-apr	8:05:08	574	-5.1	-4.7	0.4	32	16.73
11-09-apr	9:05:08	574	-4.9	-4.2	0.7	32	16.72
11-09-apr	10:05:08	575	-4.2	-2.5	1.7	32	16.72
11-09-apr	11:05:08	576	-3.5	-1.1	2.5	33	16.71
11-09-apr	12:05:08	576	-3.3	0.0	3.3	33	16.72
11-09-apr	13:05:08	576	-2.5	1.5	4.0	33	16.72
11-09-apr	14:05:08	576	-3.7	-0.6	3.1	33	16.72
11-09-apr	15:05:08	577	-3.2	0.4	3.5	33	16.72
11-09-apr	16:05:08	577	-2.8	0.2	3.0	33	16.72
11-09-apr	17:05:08	577	-3.1	-0.5	2.5	33	16.71
11-09-apr	18:05:08	578	-4.1	-1.9	2.2	33	16.72
11-09-apr	19:05:08	578	-5.4	-4.3	1.1	33	16.73
11-09-apr	20:05:08	579	-6.2	-6.2	0.0	32	16.73
11-09-apr	21:05:08	580	-5.7	-5.8	-0.1	32	16.72
11-09-apr	22:05:08	580	-5.8	-6.0	-0.2	32	16.73
11-09-apr	23:05:08	580	-6.2	-6.2	0.0	32	16.75
11-11-apr	8:57:04	588	1.4	-4.7	-6.1		0.00

BGI PQ200 Air Sampling System

Downloaded 2011 18 apr 09:19:31

Job Details:

Job Name: 11Apr18A.JOB

Version: 5.62

Serial No: 962

Pump Time: 204:32

Flags:

Job Code:

Site Name: 962A

Station Code:

Operators: kn

User1:

User2:

	Max	Min	Avg	Units
BP	588	585	586	mmHg
TA	14.7	-3.7	5.4	°C
Q	---	---	16.71	Lpm

QCV 0.39 %

 Max overheat 5.4 °C
 occurred 16-apr 16:26:57

Timer Information:

Date	Time
dd-mmm	hh:mm:ss
Start: 11-15-apr	0:00:08
Stop: 11-16-apr	0:00:04

ET: 23:59

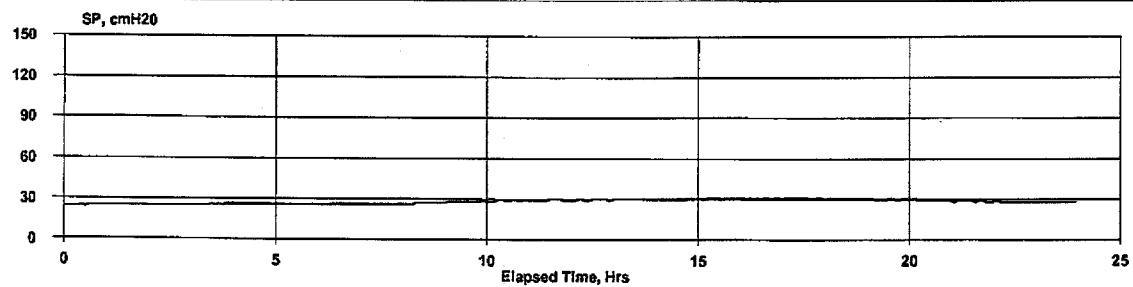
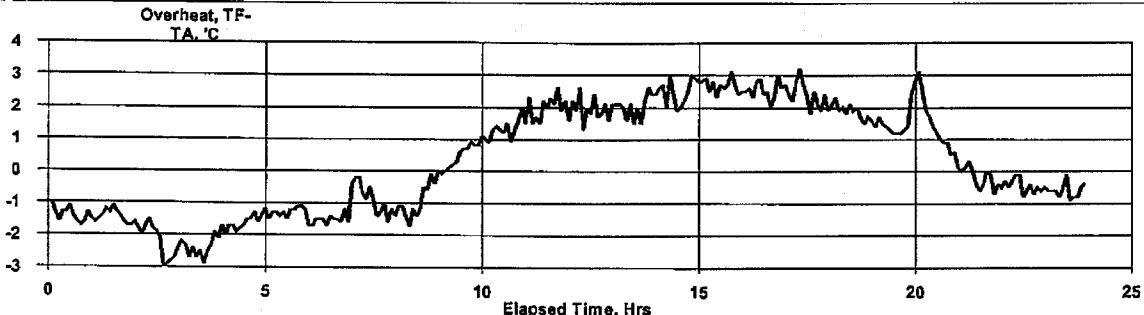
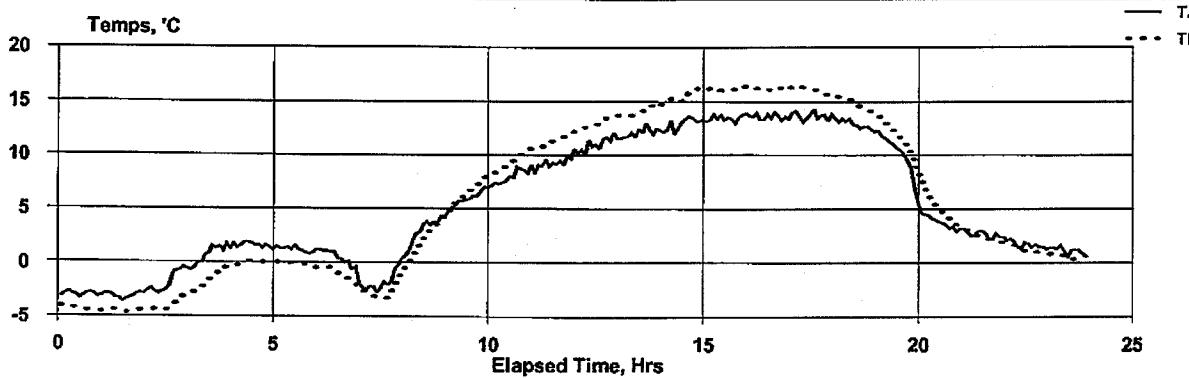
Mass Concentration Data:

Filter ID:	14
Final Wt:	mg
Initial Wt:	mg
Delta Wt:	0.000 mg
Total Vol:	24.042 m^3

Mass Conc: 0 µg/m³

Notes 1:

Notes 2:



Hourly

11-15-apr	0:05:08	587	-3.0	-4.4	-1.4	25	16.73
11-15-apr	1:05:08	587	-3.1	-4.6	-1.5	25	16.71
11-15-apr	2:05:08	587	-1.8	-4.0	-2.2	25	16.72
11-15-apr	3:05:08	587	0.7	-1.6	-2.4	25	16.72
11-15-apr	4:05:08	587	1.6	0.0	-1.6	26	16.72
11-15-apr	5:05:08	587	1.2	-0.1	-1.3	26	16.72
11-15-apr	6:05:08	587	0.3	-1.2	-1.4	26	16.72
11-15-apr	7:05:08	587	-1.7	-2.7	-0.9	26	16.71
11-15-apr	8:05:08	588	3.0	2.1	-0.9	27	16.73
11-15-apr	9:05:08	588	5.9	6.4	0.5	28	16.73
11-15-apr	10:05:08	588	8.0	9.4	1.3	29	16.72
11-15-apr	11:05:08	588	9.4	11.4	2.0	29	16.72
11-15-apr	12:05:08	588	11.1	13.0	2.0	30	16.71
11-15-apr	13:05:08	587	12.1	14.2	2.0	30	16.72
11-15-apr	14:05:08	587	13.0	15.5	2.5	30	16.71
11-15-apr	15:05:08	586	13.5	16.2	2.7	31	16.71
11-15-apr	16:05:08	586	13.6	16.1	2.6	31	16.71
11-15-apr	17:05:08	586	13.7	16.1	2.4	31	16.71
11-15-apr	18:05:08	586	12.9	14.8	1.9	30	16.70
11-15-apr	19:05:08	585	10.1	11.6	1.6	30	16.76
11-15-apr	20:05:08	586	3.8	5.1	1.3	29	16.72
11-15-apr	21:05:08	586	2.7	2.4	-0.2	29	16.72
11-15-apr	22:05:08	586	1.7	1.2	-0.5	28	16.73
11-15-apr	23:05:08	586	1.1	0.5	-0.6	28	16.71

BGI PQ200 Air Sampling System

Downloaded 2011 22 apr 10:19:26

Job Details:		Job Code: Site Name: 962A Station Code: Operators: kn User1: User2:	
Job Name: 11Apr22A.JOB Version: 5.62 Serial No: 962 Pump Time: 228:31 Flags:			
BP TA Q	Max 583 Min 579 Avg 580 Units mmHg °C Lpm	Timer Information: Date dd-mmm Start: 11-21-apr Stop: 11-22-apr Time hh:mm:ss 0:00:08 0:00:05 ET: 23:59	Mass Concentration Data: Filter ID: 17 mg Final Wt: mg Initial Wt: mg Delta Wt: 0.000 mg Total Vol: 24.043 m^3 Mass Conc: 0 µg/m3
QCV 0.56 % Max overheated 2.4 °C occurred 21-apr 01:25:28			
Notes 1: Notes 2:			
<p>Temps, °C</p> <p>Elapsed Time, Hrs</p> <p>Legend: TA (solid line), TF (dashed line)</p>			
<p>Overheat, TF - TA, °C</p> <p>Elapsed Time, Hrs</p>			
<p>SP, cmH2O</p> <p>Elapsed Time, Hrs</p>			

Hourly

11-21-apr	0:05:08	581	9.7	9.3	-0.4	27	16.72
11-21-apr	1:05:08	582	4.8	5.8	1.0	27	16.72
11-21-apr	2:05:08	581	2.9	2.7	-0.2	26	16.72
11-21-apr	3:05:08	581	2.5	2.0	-0.5	26	16.72
11-21-apr	4:05:08	581	2.1	1.5	-0.6	26	16.72
11-21-apr	5:05:08	581	1.5	0.9	-0.6	26	16.72
11-21-apr	6:05:08	581	1.0	0.3	-0.7	26	16.71
11-21-apr	7:05:08	581	1.9	1.0	-1.0	26	16.72
11-21-apr	8:05:08	581	6.8	5.7	-1.1	27	16.72
11-21-apr	9:05:08	581	8.2	8.6	0.4	28	16.73
11-21-apr	10:05:08	581	9.4	10.2	0.8	28	16.73
11-21-apr	11:05:08	581	11.0	11.9	1.0	28	16.71
11-21-apr	12:05:08	580	12.0	12.9	0.9	28	16.71
11-21-apr	13:05:08	580	13.4	14.2	0.8	29	16.72
11-21-apr	14:05:08	580	14.2	15.5	1.3	29	16.71
11-21-apr	15:05:08	580	13.7	15.1	1.3	29	16.71
11-21-apr	16:05:08	580	13.2	14.6	1.4	29	16.71
11-21-apr	17:05:08	580	13.1	14.5	1.4	29	16.72
11-21-apr	18:05:08	581	11.2	12.6	1.4	28	16.72
11-21-apr	19:05:08	581	8.8	9.6	0.8	29	16.72
11-21-apr	20:05:08	581	7.7	7.8	0.2	28	16.73
11-21-apr	21:05:08	581	7.0	6.9	0.0	28	16.72
11-21-apr	22:05:08	582	6.2	6.2	0.0	28	16.72
11-21-apr	23:05:08	582	5.0	4.7	-0.4	28	16.72

BGI PQ200 Air Sampling System

Downloaded 2011 29 apr 09:02:27

Job Details: Job Name: 11Apr29A.JOB Version: 5.62 Serial No: 962 Pump Time: 252:30 Flags:				Job Code: Site Name: 962A Station Code: Operators: KN User1: User2:	
BP Max 587 Min 582 Avg 584 Units mmHg TA 13.1 °C Q --- Lpm				Timer Information: Date dd-mmm Start: 11-27-apr Stop: 11-28-apr Time hh:mm:ss 0:00:08 ET: 23:59	
QCV 0.54 % Max overheated 4.2 °C occurred 28-apr 21:01:35				Mass Concentration Data: Filter ID: 20 mg Final Wt: mg Initial Wt: mg Delta Wt: 0.000 mg Total Vol: 24.039 m^3 Mass Conc: 0 µg/m³	
Notes 1: Notes 2:					
<p>Temps, °C</p> <p>Elapsed Time, Hrs</p> <p>— TA --- TF</p>					
<p>Overheat, TF - TA, °C</p> <p>Elapsed Time, Hrs</p>					
<p>SP, cmH2O</p> <p>Elapsed Time, Hrs</p>					

Hourly

11-27-apr	0:05:08	583	-2.6	-3.8	-1.2	29	16.70
11-27-apr	1:05:08	584	-3.7	-4.8	-1.1	29	16.71
11-27-apr	2:05:08	583	-5.0	-6.0	-0.9	29	16.71
11-27-apr	3:05:08	583	-3.5	-5.0	-1.5	29	16.71
11-27-apr	4:05:08	583	-3.0	-4.5	-1.5	29	16.71
11-27-apr	5:05:08	584	-4.1	-5.3	-1.2	29	16.72
11-27-apr	6:05:08	584	-6.3	-7.4	-1.1	29	16.71
11-27-apr	7:05:08	584	-5.5	-6.8	-1.4	29	16.72
11-27-apr	8:05:08	585	0.9	0.0	-0.9	30	16.70
11-27-apr	9:05:08	585	3.2	4.0	0.7	31	16.72
11-27-apr	10:05:08	585	4.9	6.3	1.4	32	16.73
11-27-apr	11:05:08	585	6.6	8.0	1.4	32	16.69
11-27-apr	12:05:08	585	8.3	10.0	1.7	33	16.75
11-27-apr	13:05:08	585	9.5	11.4	1.9	33	16.72
11-27-apr	14:05:08	585	10.3	12.8	2.5	34	16.70
11-27-apr	15:05:08	585	11.7	14.3	2.6	34	16.71
11-27-apr	16:05:08	585	12.1	14.6	2.5	34	16.71
11-27-apr	17:05:08	585	11.3	13.7	2.4	34	16.71
11-27-apr	18:05:08	586	10.0	11.4	1.4	33	16.73
11-27-apr	19:05:08	586	8.0	8.6	0.6	33	16.72
11-27-apr	20:05:08	586	3.4	4.4	0.9	33	16.71
11-27-apr	21:05:08	586	3.2	2.2	-1.0	32	16.71
11-27-apr	22:05:08	587	2.9	2.1	-0.8	32	16.72
11-27-apr	23:05:08	587	-0.4	-0.6	-0.2	31	16.71

BGI PQ200 Air Sampling System

Downloaded 2011_04 may 09:42:20

Job Details:				Job Code: Site Name: 962A Station Code: Operators: KN User1: User2:	
Job Name: 11May04A.JOB Version: 5.62 Serial No: 962 Pump Time: 276:29 Flags:					
BP	Max 589	Min 586	Avg 587	mmHg	
TA	17.7	-1.8	7.6	°C	
Q	--	--	16.71	Lpm	
				Timer Information:	
				Date dd-mmm Start: 11-03-may Stop: 11-04-may	Time hh:mm:ss 0:00:08 0:00:05
				ET: 23:59	Mass Concentration Data:
				Filter ID: 6 Final Wt: mg Initial Wt: mg Delta Wt: 0.000 mg Total Vol: 24.043 m^3	Mass Conc: 0 µg/m3
QCV 0.58 % Max overheat 3.8 °C occured 03-may 20:30:24				Notes 1: Notes 2:	
<p>Temps, °C</p> <p>TA</p> <p>TF</p> <p>Elapsed Time, Hrs</p>					
<p>Overheat, TF - TA, °C</p> <p>Elapsed Time, Hrs</p>					
<p>SP, cmH2O</p> <p>Elapsed Time, Hrs</p>					

Hourly

11-03-may	0:05:08	589	-0.7	-1.5	-0.8	28	16.73
11-03-may	1:05:08	589	-0.7	-1.9	-1.3	28	16.73
11-03-may	2:05:08	589	-0.3	-1.6	-1.3	28	16.71
11-03-may	3:05:08	589	-0.5	-1.5	-1.0	28	16.72
11-03-may	4:05:08	589	-0.6	-1.7	-1.0	29	16.72
11-03-may	5:05:08	588	-0.9	-1.9	-1.0	28	16.72
11-03-may	6:05:08	588	-0.7	-1.8	-1.1	28	16.72
11-03-may	7:05:08	589	1.1	-0.3	-1.4	29	16.71
11-03-may	8:05:08	589	7.3	5.5	-1.8	30	16.73
11-03-may	9:05:08	589	10.2	10.9	0.7	32	16.73
11-03-may	10:05:08	589	11.8	13.2	1.4	32	16.72
11-03-may	11:05:08	589	13.0	14.8	1.9	33	16.71
11-03-may	12:05:08	588	14.2	16.0	1.8	33	16.72
11-03-may	13:05:08	588	15.3	16.7	1.5	33	16.72
11-03-may	14:05:08	587	15.9	17.4	1.5	34	16.73
11-03-may	15:05:08	587	16.1	17.9	1.8	34	16.72
11-03-may	16:05:08	587	16.5	18.2	1.7	34	16.71
11-03-may	17:05:08	586	16.5	18.2	1.7	34	16.71
11-03-may	18:05:08	586	15.7	17.3	1.5	33	16.71
11-03-may	19:05:08	586	13.6	14.9	1.3	33	16.72
11-03-may	20:05:08	586	7.1	9.0	1.9	33	16.72
11-03-may	21:05:08	586	4.4	4.4	0.0	32	16.72
11-03-may	22:05:08	586	4.0	3.1	-0.9	32	16.72
11-03-may	23:05:08	586	3.3	2.4	-0.9	32	16.72

BGI PQ200 Air Sampling System

Downloaded 2011 10 may 08:48:03

Job Details:				Job Code: Site Name: 962A Station Code: Operators: KN User1: User2:
Job Name: 11May10A.JOB Version: 5.62 Serial No: 962 Pump Time: 300:28 Flags:				
BP	Max 578	Min 573	Avg 575	Units mmHg
TA	6	-1.5	1.3	°C
Q	---	---	16.71	Lpm
QCV 0.53 %				Timer Information:
				Date dd-mmm Start: 11-09-may Time hh:mm:ss 0:00:08
				Stop: 11-10-may 0:00:05
Max overheat 2.4 °C occured 09-may 17:55:01				ET: 23:59
				Mass Conc: 0 µg/m3
Notes 1: Notes 2:				
<p>Temps, °C</p> <p>Elapsed Time, Hrs</p> <p>— TA ··· TF</p>				
<p>Overheat, TF - TA, °C</p> <p>Elapsed Time, Hrs</p>				
<p>SP, cmH2O</p> <p>Elapsed Time, Hrs</p>				

Hourly

11-09-may	0:05:08	575	5.1	4.7	-0.5	22	16.73
11-09-may	1:05:08	574	4.5	4.4	-0.2	22	16.73
11-09-may	2:05:08	574	3.5	3.6	0.1	22	16.72
11-09-may	3:05:08	575	0.0	0.6	0.5	22	16.72
11-09-may	4:05:08	575	0.0	0.0	0.1	21	16.72
11-09-may	5:05:08	574	0.4	-0.1	-0.5	21	16.72
11-09-may	6:05:08	574	0.7	0.0	-0.7	21	16.72
11-09-may	7:05:08	574	0.9	0.4	-0.5	21	16.72
11-09-may	8:05:08	574	0.5	0.3	-0.1	21	16.71
11-09-may	9:05:08	575	-0.1	-0.1	0.0	22	16.72
11-09-may	10:05:08	575	0.0	0.3	0.2	22	16.70
11-09-may	11:05:08	575	0.5	1.1	0.6	22	16.72
11-09-may	12:05:08	575	1.4	1.8	0.4	22	16.72
11-09-may	13:05:08	576	1.4	1.9	0.5	22	16.72
11-09-may	14:05:08	576	1.2	1.3	0.1	22	16.72
11-09-may	15:05:08	576	2.7	3.1	0.4	22	16.74
11-09-may	16:05:08	576	4.6	6.1	1.4	23	16.72
11-09-may	17:05:08	576	3.3	5.1	1.7	23	16.72
11-09-may	18:05:08	576	0.8	2.1	1.3	22	16.71
11-09-may	19:05:08	576	0.4	0.7	0.3	22	16.73
11-09-may	20:05:08	577	-0.1	-0.3	-0.1	22	16.70
11-09-may	21:05:08	577	-0.3	-0.5	-0.2	22	16.70
11-09-may	22:05:08	578	-0.4	-0.3	0.1	22	16.71
11-09-may	23:05:08	577	-1.0	-0.9	0.0	22	16.71

BGI PQ200 Air Sampling System

Downloaded 2011 16 may 09:53:54

Job Details:				Job Code: Site Name: 962A Station Code: Operators: KN User1: User2:	
Job Name: 11May16A.JOB Version: 5.62 Serial No: 962 Pump Time: 324:27 Flags:					
BP	Max 582	Min 579	Avg 580	Units mmHg	
TA	17.9	2.6	11.7	°C	
Q	--	--	16.71	Lpm	
QCV	0.52 %				
Max overheat 2 °C occurred 15-may 11:08:11					
				Timer Information:	
				Date dd-mmm Start: 11-15-may	Time hh:mm:ss 0:00:08
				Stop: 11-16-may	0:00:05
				ET: 23:59	
				Mass Concentration Data:	
				Filter ID: 12	mg
				Final Wt:	mg
				Initial Wt:	mg
				Delta Wt: 0.000	mg
				Total Vol: 24.037	m³
				Mass Conc:	0 µg/m³
Notes 1: Notes 2:					
<p>Temps, °C</p> <p>Elapsed Time, Hrs</p> <p>— TA --- TF</p>					
<p>Overheat, TF - TA, °C</p> <p>Elapsed Time, Hrs</p>					
<p>SP, cmH2O</p> <p>Elapsed Time, Hrs</p>					

Hourly

11-15-may	0:05:08	581	3.9	3.5	-0.4	37	16.73
11-15-may	1:05:08	581	6.2	3.6	-2.6	37	16.71
11-15-may	2:05:08	581	6.4	4.5	-1.9	38	16.72
11-15-may	3:05:08	581	9.1	6.3	-2.8	38	16.70
11-15-may	4:05:08	581	9.0	7.2	-1.8	39	16.71
11-15-may	5:05:08	581	8.5	7.0	-1.5	38	16.71
11-15-may	6:05:08	581	8.0	6.6	-1.4	39	16.72
11-15-may	7:05:08	581	8.9	8.2	-0.7	39	16.71
11-15-may	8:05:08	581	10.5	11.0	0.5	40	16.71
11-15-may	9:05:08	582	11.8	12.7	0.9	41	16.72
11-15-may	10:05:08	582	13.0	13.9	0.9	41	16.71
11-15-may	11:05:08	582	13.8	15.0	1.1	41	16.72
11-15-may	12:05:08	581	15.0	15.7	0.8	41	16.73
11-15-may	13:05:08	581	16.1	16.9	0.8	42	16.71
11-15-may	14:05:08	580	16.9	17.5	0.6	42	16.70
11-15-may	15:05:08	580	17.0	18.0	1.0	42	16.71
11-15-may	16:05:08	580	17.1	18.0	1.0	42	16.72
11-15-may	17:05:08	580	16.5	17.7	1.2	42	16.71
11-15-may	18:05:08	580	15.6	16.7	1.1	42	16.73
11-15-may	19:05:08	579	14.1	14.9	0.8	42	16.71
11-15-may	20:05:08	580	12.3	12.1	-0.2	41	16.71
11-15-may	21:05:08	580	10.8	9.9	-0.9	41	16.72
11-15-may	22:05:08	580	9.6	8.6	-1.0	40	16.74
11-15-may	23:05:08	581	8.8	7.9	-0.9	41	16.70

BGI PQ200 Air Sampling System

Downloaded 2011_23 may 10:32:29

Job Details:			
Job Name:	11May23A.JOB	Job Code:	
Version:	5.62	Site Name:	962A
Serial No:	962	Station Code:	
Pump Time:	348:26	Operators:	kn
Flags:		User1:	
BP	Max 585	Min 583	Avg 583 mmHg
TA	16.8	-2.1	8.6 °C
Q	---	--	16.71 Lpm
QCV	0.55 %		
Max overheat	6 °C		
occured 22-may 16:47:38			
Notes 1:			
Notes 2:			

Timer Information:

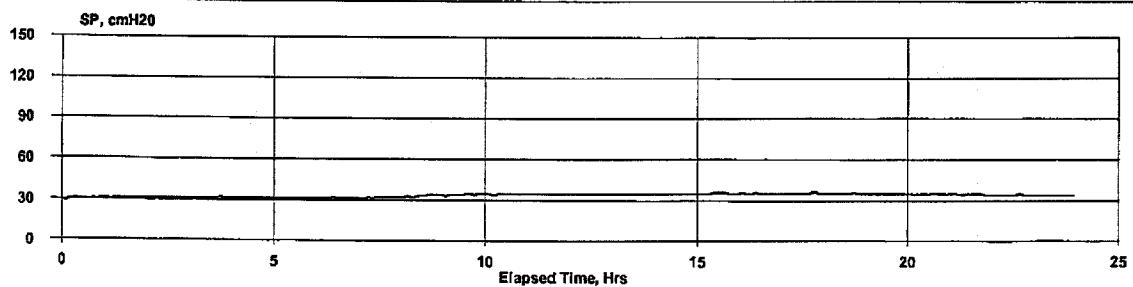
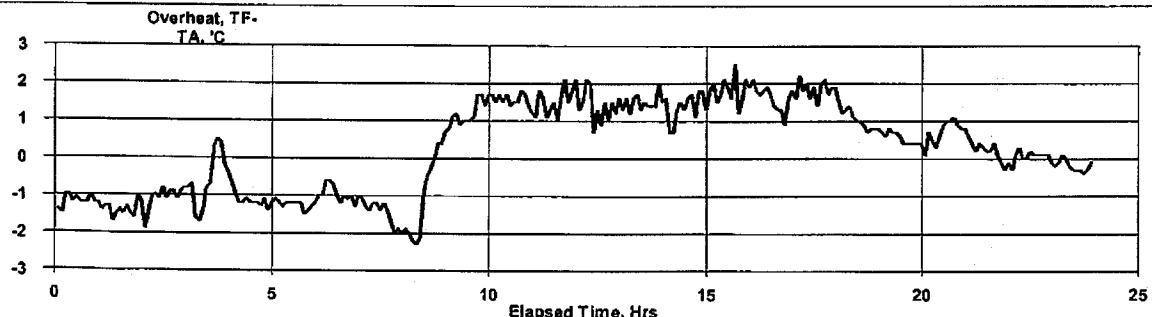
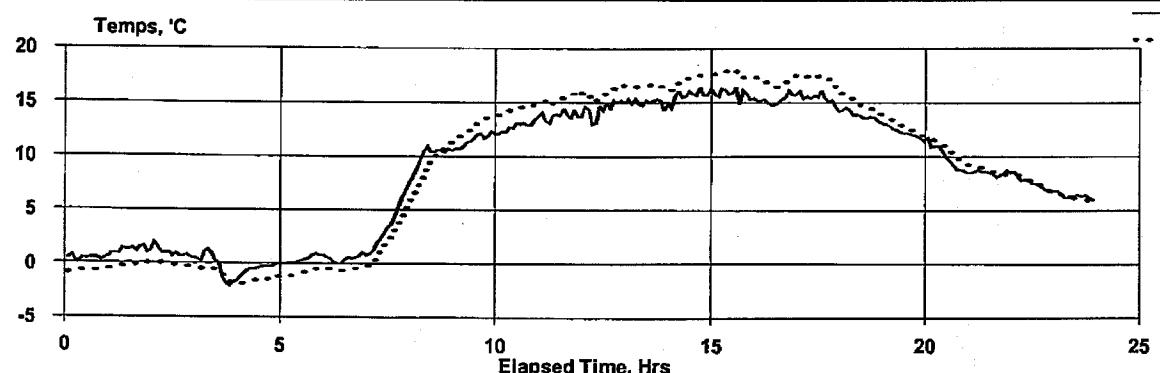
Date dd-mmm	Time hh:mm:ss
Start: 11-21-may	0:00:08
Stop: 11-22-may	0:00:05

ET: 23:59

Mass Concentration Data:

Filter ID: 16
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.042 m^3

Mass Conc: 0 µg/m³



Hourly

11-21-may	0:05:08	584	0.5	-0.7	-1.2	30	16.70
11-21-may	1:05:08	584	1.2	-0.2	-1.4	31	16.71
11-21-may	2:05:08	584	0.9	-0.1	-1.1	31	16.71
11-21-may	3:05:08	584	-0.4	-1.0	-0.6	31	16.71
11-21-may	4:05:08	584	-0.4	-1.6	-1.2	31	16.71
11-21-may	5:05:08	584	0.4	-0.8	-1.3	31	16.70
11-21-may	6:05:08	584	0.5	-0.5	-1.0	31	16.71
11-21-may	7:05:08	584	3.9	2.4	-1.5	32	16.71
11-21-may	8:05:08	584	10.1	9.2	-0.9	33	16.72
11-21-may	9:05:08	585	11.6	12.8	1.2	34	16.72
11-21-may	10:05:08	584	12.8	14.4	1.6	35	16.73
11-21-may	11:05:08	584	13.8	15.3	1.5	35	16.72
11-21-may	12:05:08	584	14.5	15.9	1.4	35	16.71
11-21-may	13:05:08	584	15.0	16.5	1.5	35	16.71
11-21-may	14:05:08	584	15.7	17.1	1.4	35	16.71
11-21-may	15:05:08	584	15.8	17.6	1.8	35	16.71
11-21-may	16:05:08	583	15.3	16.9	1.6	35	16.71
11-21-may	17:05:08	583	15.3	17.2	1.8	35	16.71
11-21-may	18:05:08	583	13.8	14.8	1.0	35	16.72
11-21-may	19:05:08	583	12.2	12.8	0.5	35	16.72
11-21-may	20:05:08	583	9.9	10.6	0.7	35	16.72
11-21-may	21:05:08	583	8.5	8.7	0.2	35	16.71
11-21-may	22:05:08	583	7.5	7.6	0.1	34	16.71
11-21-may	23:05:08	583	6.4	6.2	-0.2	34	16.71

BGI PQ200 Air Sampling System

Downloaded 2011_30 may_10:23:03

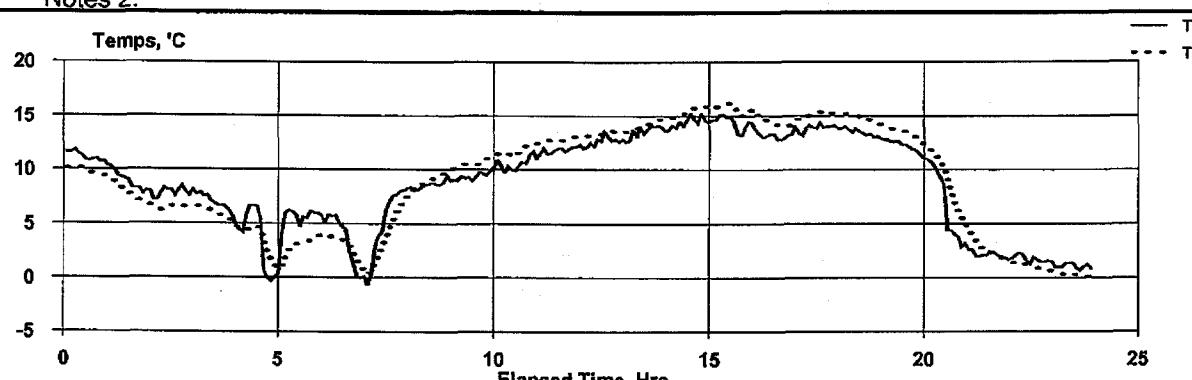
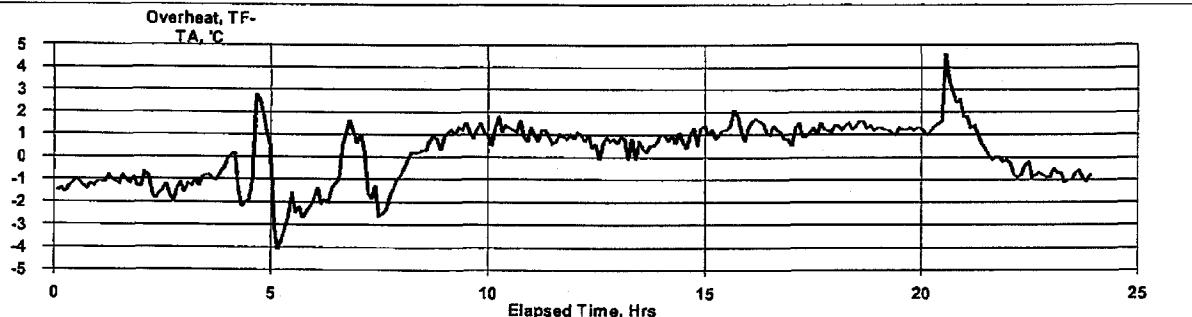
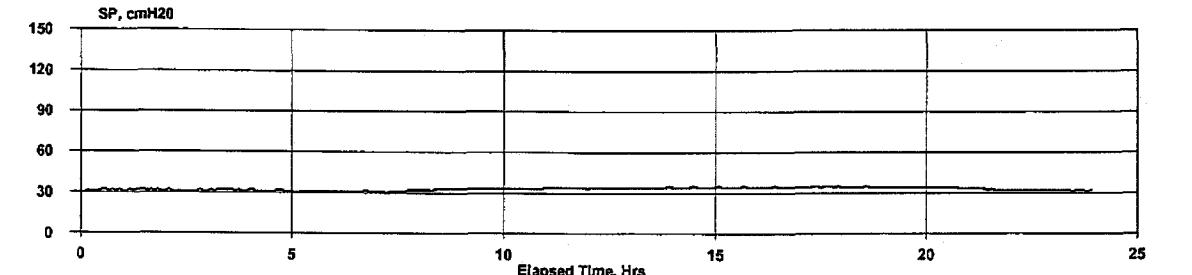
Job Details:			Job Code: Site Name: 962A Station Code: Operators: KN User1: User2:				
Job Name: 11May30A.JOB Version: 5.62 Serial No: 962 Pump Time: 372:25 Flags:							
BP	Max 584	Min 580	Avg 582	Units mmHg	Timer Information:	Mass Concentration Data:	
TA	21.6	2.3	12.4	°C	Date dd-mmm Start: 11-27-may	Time hh:mm:ss 0:00:08	Filter ID: 6
Q	---	---	16.71	Lpm	Stop: 11-28-may	0:00:05	Final Wt: mg
QCV	0.55 %				ET: 23:59	Initial Wt: mg	
Max overheat 2.4 °C occured 27-may 09:48:05						Delta Wt: 0.000 mg	
						Total Vol: 24.043 m^3	
						Mass Conc: 0 µg/m³	
Notes 1:							
Notes 2:							
<p>Temps, °C</p> <p>Elapsed Time, Hrs</p> <p>— TA --- TF</p>							
<p>Overheat, TF - TA, °C</p> <p>Elapsed Time, Hrs</p>							
<p>SP, cmH2O</p> <p>Elapsed Time, Hrs</p>							

Hourly

11-27-may	0:05:08	582	5.0	3.8	-1.2	26	16.74
11-27-may	1:05:08	582	4.7	3.8	-1.0	27	16.72
11-27-may	2:05:08	582	4.4	3.4	-1.0	27	16.72
11-27-may	3:05:08	582	4.2	3.3	-0.8	27	16.71
11-27-may	4:05:08	582	4.1	3.2	-1.0	27	16.71
11-27-may	5:05:08	582	3.6	2.6	-1.0	27	16.71
11-27-may	6:05:08	583	3.6	2.7	-0.9	27	16.71
11-27-may	7:05:08	583	7.8	6.1	-1.8	27	16.72
11-27-may	8:05:08	583	13.1	12.9	-0.2	29	16.72
11-27-may	9:05:08	583	14.4	16.0	1.6	30	16.72
11-27-may	10:05:08	583	16.1	17.6	1.6	30	16.71
11-27-may	11:05:08	583	17.1	18.5	1.3	31	16.72
11-27-may	12:05:08	583	18.6	19.7	1.1	31	16.71
11-27-may	13:05:08	583	19.2	20.2	0.9	31	16.72
11-27-may	14:05:08	583	19.8	20.8	1.0	31	16.71
11-27-may	15:05:08	582	20.6	21.7	1.2	32	16.72
11-27-may	16:05:08	582	20.7	22.2	1.6	32	16.72
11-27-may	17:05:08	582	20.5	22.2	1.8	32	16.71
11-27-may	18:05:08	581	19.6	21.4	1.8	32	16.71
11-27-may	19:05:08	581	18.0	19.4	1.4	32	16.72
11-27-may	20:05:08	581	14.9	15.4	0.5	31	16.71
11-27-may	21:05:08	581	10.4	11.0	0.6	31	16.73
11-27-may	22:05:08	581	8.3	8.2	-0.2	30	16.73
11-27-may	23:05:08	581	7.1	6.6	-0.4	30	16.71

BGI PQ200 Air Sampling System

Downloaded 2011_03_jun_09:04:16

Job Details:				Job Code: Site Name: 962A Station Code: Operators: KN User1: User2:
Job Name: 11Jun03A.JOB Version: 5.62 Serial No: 962 Pump Time: 396:24 Flags:				
BP	Max 584	Min 581	Avg 582	mmHg
TA	15.8	-0.8	8.9	°C
Q	---	---	16.71	Lpm
QCV	0.56 %			
Max overheat 4.7 °C occured 02-jun 20:35:03				
				Timer Information:
				Date dd-mmm Start: 11-02-jun Time: 0:00:08
				Stop: 11-03-jun 0:00:05
				ET: 23:59
				Mass Concentration Data:
				Filter ID: 9 mg
				Final Wt: mg
				Initial Wt: mg
				Delta Wt: 0.000 mg
				Total Vol: 24.042 m^3
				Mass Conc: 0 ug/m3
Notes 1: Notes 2:				
 <p>Temps, °C</p> <p>Elapsed Time, Hrs</p> <p>Legend: TA (solid line), TF (dashed line)</p>				
 <p>Overheat, TF - TA, °C</p> <p>Elapsed Time, Hrs</p>				
 <p>SP, cmH2O</p> <p>Elapsed Time, Hrs</p>				

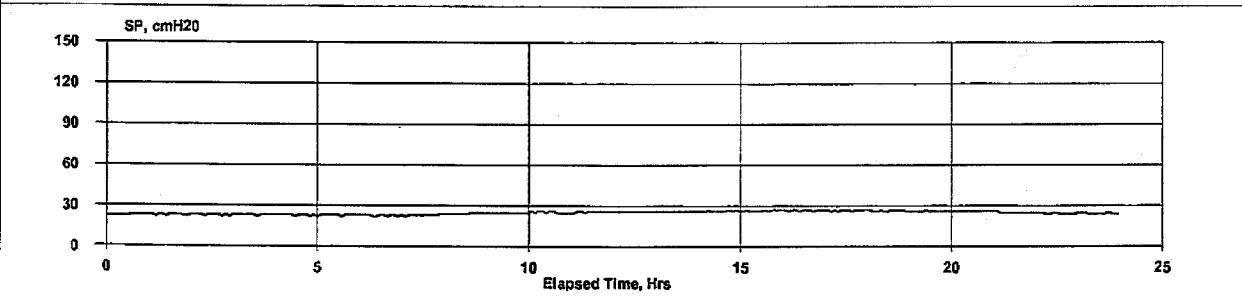
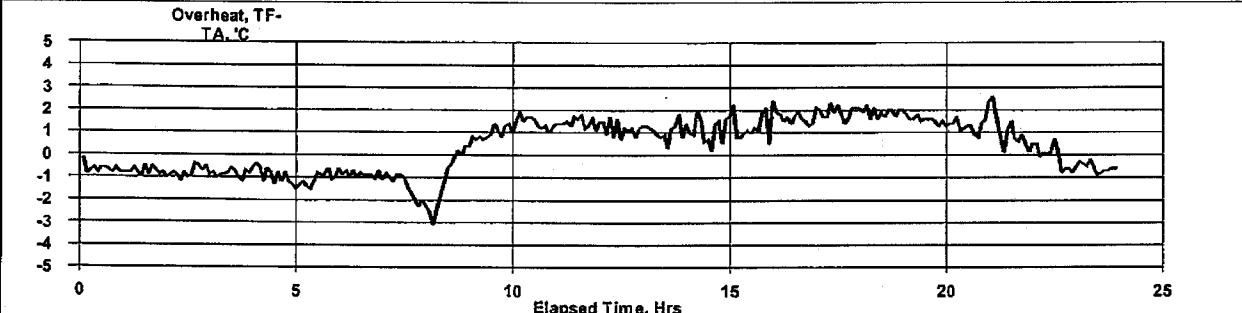
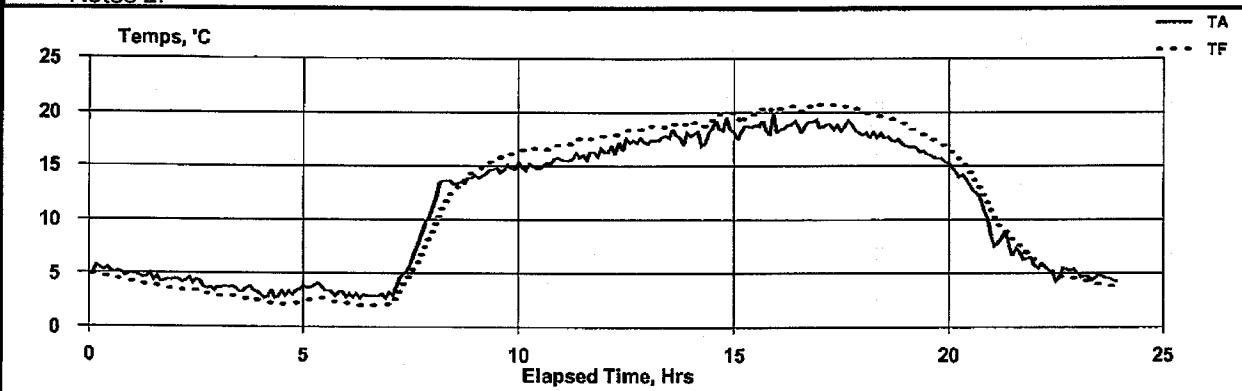
Hourly

11-02-jun	0:05:08	582	11.1	9.8	-1.3	31	16.71
11-02-jun	1:05:08	582	8.8	7.8	-1.1	32	16.71
11-02-jun	2:05:08	582	7.9	6.5	-1.4	31	16.71
11-02-jun	3:05:08	582	6.8	5.9	-0.9	32	16.71
11-02-jun	4:05:08	582	3.4	3.4	0.1	31	16.71
11-02-jun	5:05:08	582	5.6	3.0	-2.7	31	16.71
11-02-jun	6:05:08	582	3.4	2.9	-0.5	31	16.71
11-02-jun	7:05:08	582	5.3	4.0	-1.3	31	16.72
11-02-jun	8:05:08	583	8.7	9.0	0.4	33	16.71
11-02-jun	9:05:08	583	9.5	10.6	1.2	33	16.71
11-02-jun	10:05:08	583	10.6	11.8	1.2	33	16.73
11-02-jun	11:05:08	583	11.9	12.8	0.9	34	16.72
11-02-jun	12:05:08	584	12.7	13.3	0.7	34	16.71
11-02-jun	13:05:08	584	13.6	14.1	0.5	34	16.71
11-02-jun	14:05:08	584	14.4	15.4	0.9	34	16.70
11-02-jun	15:05:08	584	14.4	15.6	1.2	34	16.72
11-02-jun	16:05:08	583	13.2	14.4	1.2	34	16.71
11-02-jun	17:05:08	583	13.9	15.1	1.2	35	16.73
11-02-jun	18:05:08	583	13.4	14.8	1.4	34	16.73
11-02-jun	19:05:08	583	12.2	13.4	1.2	34	16.73
11-02-jun	20:05:08	583	6.9	9.0	2.1	34	16.71
11-02-jun	21:05:08	583	2.1	2.7	0.5	33	16.71
11-02-jun	22:05:08	583	1.8	1.1	-0.7	32	16.71
11-02-jun	23:05:08	583	1.1	0.3	-0.8	32	16.71

BGI PQ200 Air Sampling System

Downloaded 2011 09 jun 09:37:33

Job Details:				Job Code: Site Name: 962A Station Code: Operators: KN User1: User2:
Job Name: 11Jun09A.JOB Version: 5.62 Serial No: 962 Pump Time: 420:23 Flags:				
BP	Max 584	Min 581	Avg 582	mmHg
TA	20.1	2.5	11.1	°C
Q	--	--	16.72	Lpm
QCV 0.54 %				
Max overheat 3.1 °C occured 08-jun 21:03:53				
ET: 23:59				Mass Conc: 0 µg/m³
				Mass Concentration Data: Filter ID: 4 Final Wt: mg Initial Wt: mg Delta Wt: 0.000 mg Total Vol: 24.043 m³
				Notes 1: Notes 2:



Hourly

11-08-jun	0:05:08	583	5.2	4.5	-0.7	23	16.72
11-08-jun	1:05:08	583	4.6	3.8	-0.8	23	16.73
11-08-jun	2:05:08	583	4.0	3.2	-0.8	23	16.73
11-08-jun	3:05:08	583	3.5	2.7	-0.8	23	16.72
11-08-jun	4:05:08	583	3.1	2.2	-1.0	23	16.73
11-08-jun	5:05:08	582	3.5	2.4	-1.0	23	16.73
11-08-jun	6:05:08	583	2.9	2.1	-0.9	23	16.73
11-08-jun	7:05:08	583	6.8	5.4	-1.5	23	16.73
11-08-jun	8:05:08	583	13.5	12.6	-0.9	24	16.72
11-08-jun	9:05:08	583	14.6	15.6	1.0	25	16.71
11-08-jun	10:05:08	583	15.2	16.6	1.4	25	16.71
11-08-jun	11:05:08	583	16.0	17.4	1.5	26	16.70
11-08-jun	12:05:08	583	17.0	18.2	1.2	26	16.71
11-08-jun	13:05:08	583	17.7	18.8	1.1	26	16.73
11-08-jun	14:05:08	583	18.2	19.4	1.1	26	16.71
11-08-jun	15:05:08	583	18.6	19.9	1.3	27	16.73
11-08-jun	16:05:08	582	18.8	20.4	1.7	27	16.72
11-08-jun	17:05:08	582	18.6	20.5	1.9	27	16.72
11-08-jun	18:05:08	583	17.6	19.5	1.9	27	16.70
11-08-jun	19:05:08	583	16.1	17.6	1.6	26	16.71
11-08-jun	20:05:08	583	12.6	14.0	1.4	26	16.72
11-08-jun	21:05:08	584	7.2	8.1	0.9	25	16.72
11-08-jun	22:05:08	584	5.3	5.1	-0.2	24	16.73
11-08-jun	23:05:08	584	4.6	4.1	-0.6	24	16.73

BGI PQ200 Air Sampling System

Downloaded 2011 17 jun 20:44:27

Job Details:

Job Name: 11Jun17A.JOB
 Version: 5.62
 Serial No: 962
 Pump Time: 444:22
 Flags: F

Job Code:
 Site Name: 962A
 Station Code:
 Operators: kn
 User1:
 User2:

	Max	Min	Avg	Units
BP	589	585	587	mmHg
TA	25.6	6	16.1	°C
Q	---	---	16.71	Lpm

QCV 0.54 %
 Max overheat 8.4 °C
 occurred 15-jun 20:49:01

Timer Information:

Date	Time
dd-mmm	hh:mm:ss
Start: 11-14-jun	0:00:08
Stop: 11-15-jun	0:00:05

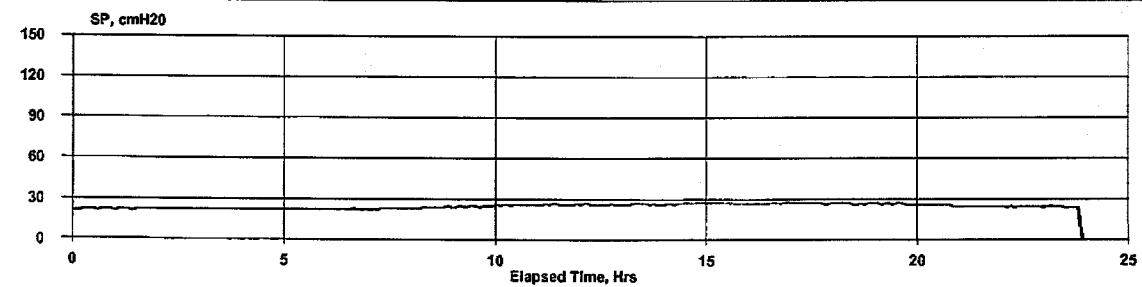
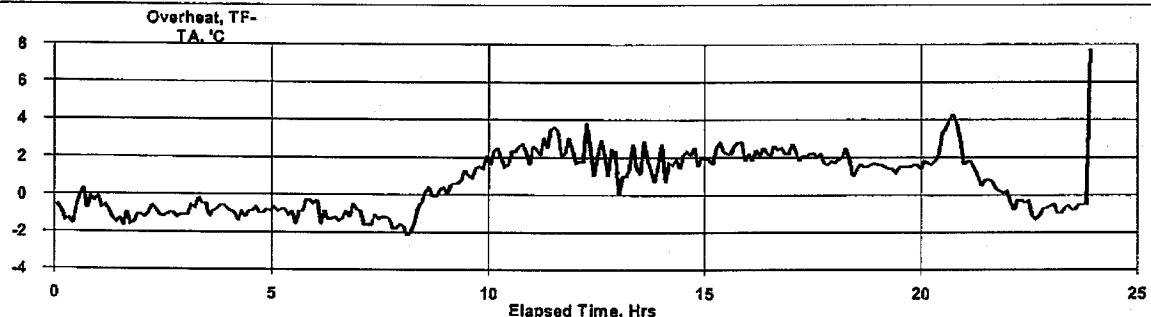
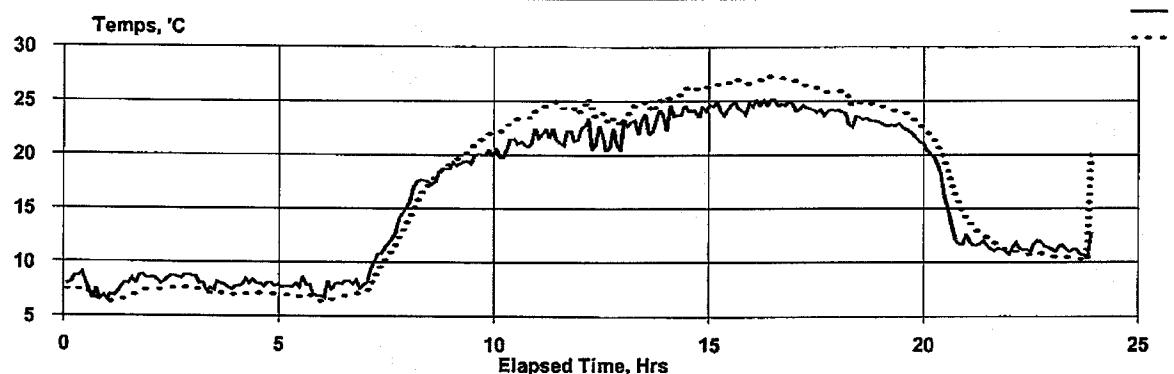
ET: 23:59

Mass Concentration Data:

Filter ID:	17
Final Wt:	mg
Initial Wt:	mg
Delta Wt:	0.000 mg
Total Vol:	24.042 m^3

Mass Conc: 0 µg/m³

Notes 1:
 Notes 2:



Hourly

11-14-jun	0:05:08	586	7.7	7.0	-0.6	22	16.71
11-14-jun	1:05:08	586	8.0	6.8	-1.2	22	16.71
11-14-jun	2:05:08	587	8.5	7.5	-1.0	22	16.71
11-14-jun	3:05:08	587	7.9	7.2	-0.7	22	16.72
11-14-jun	4:05:08	587	8.0	7.0	-1.0	22	16.71
11-14-jun	5:05:08	587	7.7	6.9	-0.8	22	16.71
11-14-jun	6:05:08	587	7.9	6.8	-1.1	22	16.71
11-14-jun	7:05:08	588	11.8	10.4	-1.4	23	16.71
11-14-jun	8:05:08	588	17.7	17.1	-0.6	24	16.72
11-14-jun	9:05:08	588	19.7	20.7	1.0	25	16.72
11-14-jun	10:05:08	589	20.9	23.0	2.1	26	16.71
11-14-jun	11:05:08	588	21.7	24.4	2.7	26	16.73
11-14-jun	12:05:08	588	21.6	23.8	2.1	26	16.72
11-14-jun	13:05:08	588	23.0	24.4	1.4	27	16.74
11-14-jun	14:05:08	588	23.9	25.8	1.9	27	16.72
11-14-jun	15:05:08	588	24.4	26.7	2.3	27	16.73
11-14-jun	16:05:08	587	24.8	27.1	2.3	27	16.73
11-14-jun	17:05:08	587	24.2	26.2	2.1	27	16.72
11-14-jun	18:05:08	587	23.4	25.1	1.7	27	16.71
11-14-jun	19:05:08	587	22.4	23.9	1.5	27	16.72
11-14-jun	20:05:08	587	16.5	19.3	2.7	26	16.71
11-14-jun	21:05:08	587	11.6	12.5	0.9	25	16.72
11-14-jun	22:05:08	587	11.4	10.8	-0.6	25	16.70
11-14-jun	23:05:08	587	11.1	10.4	-0.7	24	16.71
11-15-jun	20:54:09	582	12.7	20.4	7.7		0.00

BGI PQ200 Air Sampling System

Downloaded 2011_21 jun 09:57:45

Job Details:

Job Name: 11Jun21A.JOB
 Version: 5.62
 Serial No: 962
 Pump Time: 468:21
 Flags:

Job Code:
 Site Name: 962A
 Station Code:
 Operators: kn
 User1:
 User2:

	Max	Min	Avg	Units
BP	585	581	583	mmHg
TA	22.6	1	13.1	°C
Q	---	---	16.71	Lpm

QCV 0.58 %
 Max overheat 3.9 °C
 occurred 21-jun 03:26:11

Timer Information:

Date	Time
dd-mmm	hh:mm:ss
Start: 11-20-jun	0:00:08
Stop: 11-21-jun	0:00:04

ET: 23:59

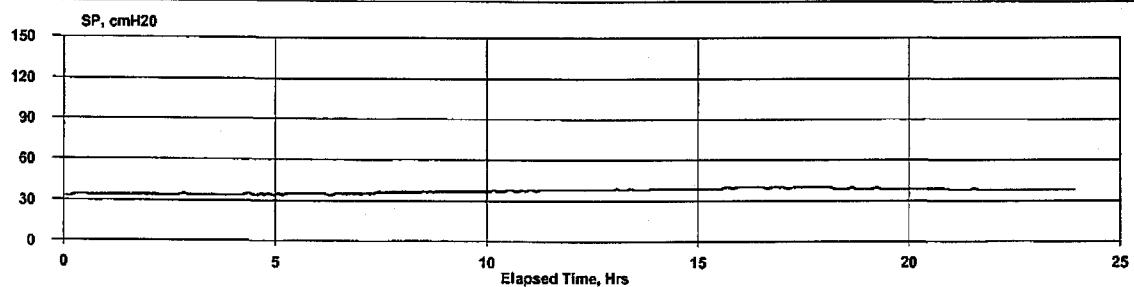
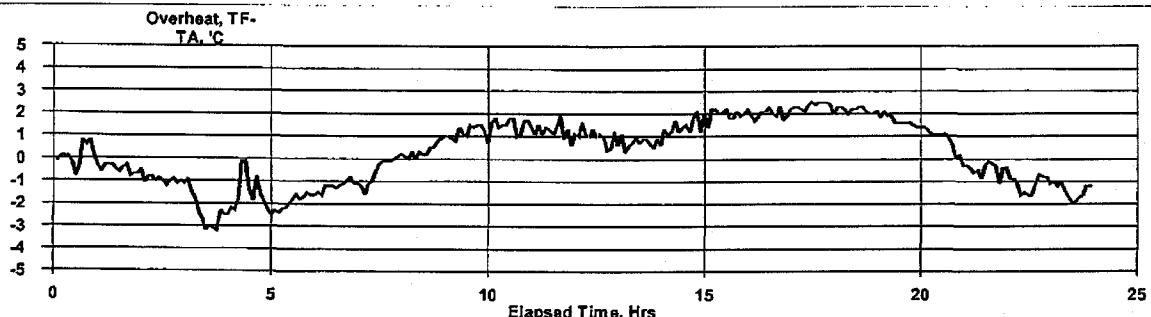
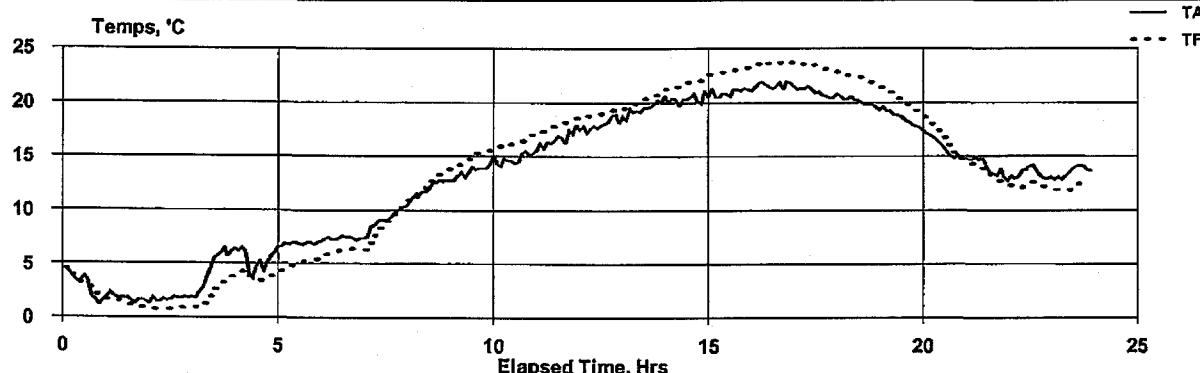
Mass Concentration Data:

Filter ID:	6
Final Wt:	mg
Initial Wt:	mg
Delta Wt:	0.000 mg
Total Vol:	24.043 m^3

Mass Conc: 0 ug/m3

Notes 1:

Notes 2:



Hourly

11-20-jun	0:05:08	583	2.9	3.0	0.1	34	16.71
11-20-jun	1:05:08	583	1.7	1.2	-0.5	34	16.72
11-20-jun	2:05:08	583	1.7	0.8	-1.0	34	16.71
11-20-jun	3:05:08	582	4.8	2.3	-2.4	34	16.71
11-20-jun	4:05:08	583	5.4	3.8	-1.6	34	16.71
11-20-jun	5:05:08	583	6.9	5.0	-1.9	35	16.71
11-20-jun	6:05:08	583	7.4	6.2	-1.2	35	16.70
11-20-jun	7:05:08	583	9.3	8.8	-0.5	36	16.72
11-20-jun	8:05:08	584	12.1	12.5	0.4	36	16.71
11-20-jun	9:05:08	584	13.8	14.9	1.2	37	16.72
11-20-jun	10:05:08	584	14.8	16.4	1.5	37	16.73
11-20-jun	11:05:08	584	16.7	18.0	1.2	38	16.71
11-20-jun	12:05:08	584	18.1	19.0	1.0	38	16.70
11-20-jun	13:05:08	584	19.5	20.3	0.7	38	16.70
11-20-jun	14:05:08	584	20.3	21.8	1.5	39	16.71
11-20-jun	15:05:08	584	21.0	23.0	2.0	39	16.71
11-20-jun	16:05:08	584	21.6	23.6	2.0	40	16.71
11-20-jun	17:05:08	584	21.0	23.3	2.3	40	16.72
11-20-jun	18:05:08	584	20.0	22.2	2.2	39	16.72
11-20-jun	19:05:08	584	18.5	20.2	1.7	39	16.72
11-20-jun	20:05:08	584	15.8	16.6	0.8	39	16.72
11-20-jun	21:05:08	584	14.0	13.5	-0.5	38	16.72
11-20-jun	22:05:08	585	13.4	12.3	-1.1	38	16.72
11-20-jun	23:05:08	585	13.6	12.1	-1.4	38	16.71

Compliance Monitor 963B

PM₁₀ Sampler Summary**April 1, 2011 - June 30, 2011****Network: Alton Coal Development, LLC****Site: Coal Hollow Mine****Sampler ID: 963B****AQS ID:****Sampler Type: BG FRM Single**

Date	Filter ID	Concentration LTP ($\mu\text{g}/\text{m}^3$)	Concentration STP ($\mu\text{g}/\text{m}^3$)	Sample Period (hr:min)	Sample Volume (m 3)	Std Volume (m 3)	Tare	Gross	Mass (mg)	Flag	Comments
04/03/11	P0072340	5.4	6.5	23:58	24.0	19.8	149.148	149.277	0.129		
04/09/11	P0072342	4.0	4.7	23:58	24.0	20.3	145.793	145.888	0.095		
04/15/11	P0072919	30.6	36.8	23:59	24.0	20.0	147.867	148.603	0.736		
04/21/11	P0072922	53.5	65.4	23:59	24.0	19.6	150.250	151.535	1.285		
04/27/11	P0073525	24.0	28.7	23:59	24.0	20.1	146.468	147.046	0.578		
05/03/11	P0073528	58.9	71.3	23:59	24.0	19.9	144.889	146.305	1.416		
05/09/11	P0073599	3.6	4.3	23:59	24.0	19.9	147.988	148.074	0.086		
05/15/11	P0198552	16.5	20.5	23:59	24.0	19.4	145.447	145.844	0.397		
05/21/11	P0198556	5.4	6.6	23:59	24.0	19.7	146.011	146.141	0.130		
05/24/11	P0198691	11.4	14.0	23:59	24.0	19.7	145.769	146.044	0.275		
05/27/11		Invalid - AF	Invalid - AF								
06/02/11	P0198694	31.7	38.9	23:59	24.0	19.5	145.737	146.498	0.761		
06/08/11	P0198835	50.2	62.1	23:59	24.0	19.4	144.437	145.643	1.206		
06/14/11	P0198839	18.9	23.5	23:59	24.0	19.2	143.554	144.007	0.453		
06/20/11	P0199751	13.9	17.3	23:59	24.0	19.3	139.064	139.398	0.334		
06/26/11	P0199754	6.8	8.6	23:59	24.0	19.1	138.439	138.603	0.164		
05/09/11	P0198554		Field Blank				142.119	142.129	0.010		
05/24/11	P0198558		Field Blank				141.888	141.911	0.023		
	# Valid	Recovery	Average	St. Dev.			Min				
	15	93.8%	27.3	23.0			71.3				

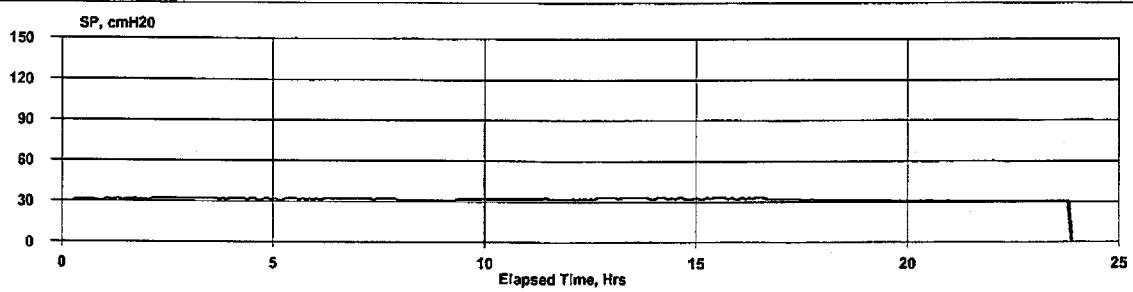
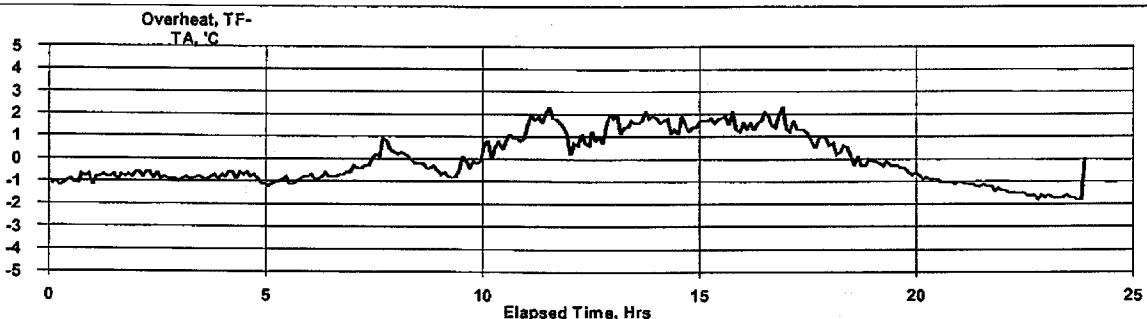
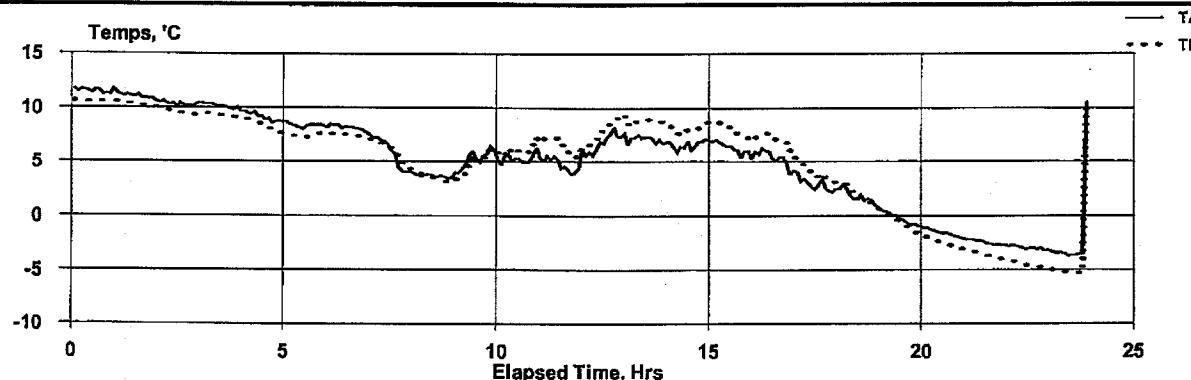
BGI PQ200 Air Sampling System

Downloaded 2011 04 apr 14:46:06

Job Details:				Job Code: Site Name: 963B Station Code: Operators: kn User1: User2:			
Job Name: 11Apr04B.JOB Version: 5.62 Serial No: 963 Pump Time: 257:33 Flags:							
BP	Max 593	Min 583	Avg 586	Units mmHg	Timer Information:		Mass Concentration Data:
TA	12.4	-3.8	5.1	°C	Date dd-mmm	Time hh:mm:ss	Filter ID: IML12
Q	---	---	16.7	Lpm	Start: 11-03-apr	0:00:08	Final Wt: _____ mg
QCV 0.53 %				Stop: 11-03-apr	23:59:05	Initial Wt: _____ mg	
Max overheat 2.7 °C occurred 03-apr 11:32:36				ET: 23:58		Delta Wt: 0.000 mg	
						Total Vol: 24.021 m³	
						Mass Conc: 0 µg/m³	

Notes 1:

Notes 2:



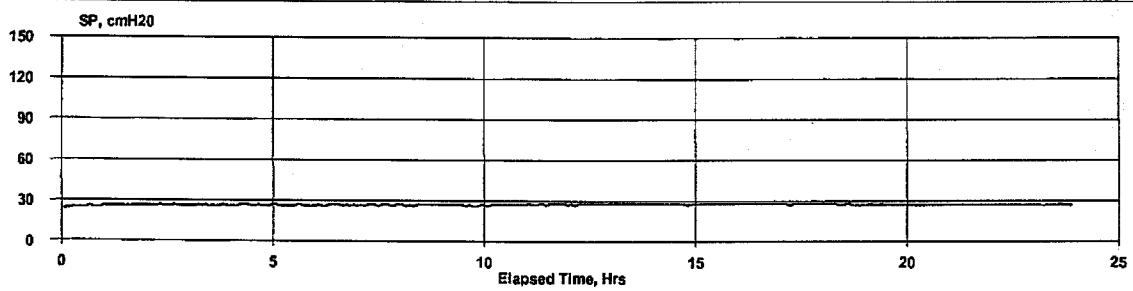
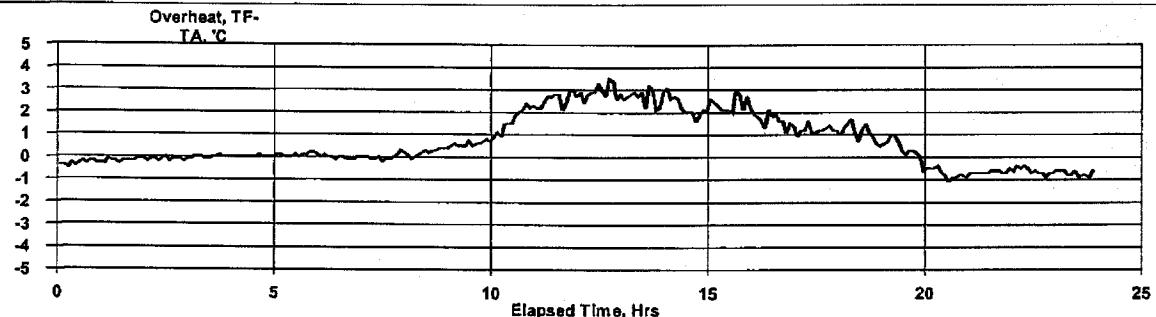
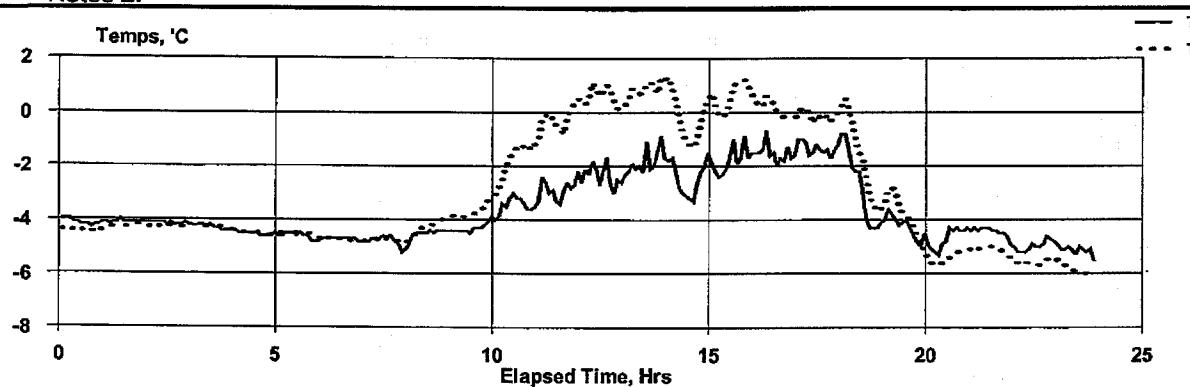
Hourly

11-03-apr	0:05:08	585	11.5	10.5	-1.0	31	16.71
11-03-apr	1:05:08	585	11.0	10.2	-0.8	31	16.71
11-03-apr	2:05:08	584	10.3	9.5	-0.8	32	16.71
11-03-apr	3:05:08	584	10.1	9.3	-0.8	32	16.70
11-03-apr	4:05:08	583	9.1	8.3	-0.8	32	16.70
11-03-apr	5:05:08	583	8.4	7.4	-1.0	32	16.69
11-03-apr	6:05:08	583	8.2	7.4	-0.7	32	16.70
11-03-apr	7:05:08	584	5.9	6.0	0.1	32	16.71
11-03-apr	8:05:08	584	3.7	3.6	-0.1	31	16.71
11-03-apr	9:05:08	585	5.2	4.8	-0.4	32	16.71
11-03-apr	10:05:08	585	5.3	6.0	0.7	32	16.70
11-03-apr	11:05:08	586	4.8	6.5	1.7	32	16.71
11-03-apr	12:05:08	586	6.7	7.7	0.9	32	16.72
11-03-apr	13:05:08	587	7.1	8.8	1.7	33	16.72
11-03-apr	14:05:08	587	6.6	8.1	1.5	33	16.72
11-03-apr	15:05:08	587	6.4	8.1	1.7	33	16.70
11-03-apr	16:05:08	588	5.4	7.1	1.7	32	16.71
11-03-apr	17:05:08	588	3.0	4.1	1.1	32	16.71
11-03-apr	18:05:08	589	1.9	2.1	0.2	31	16.71
11-03-apr	19:05:08	589	-0.1	-0.5	-0.3	31	16.71
11-03-apr	20:05:08	590	-1.5	-2.4	-0.9	30	16.71
11-03-apr	21:05:08	591	-2.4	-3.6	-1.2	30	16.71
11-03-apr	22:05:08	592	-2.9	-4.5	-1.5	30	16.70
11-03-apr	23:05:08	593	-3.5	-5.2	-1.7	30	16.71
11-04-apr	14:41:25	591	10.5	10.5	0.0		0.00

BGI PQ200 Air Sampling System

Downloaded 2011_11_apr_09:59:40

Job Details:				Job Code: Site Name: 963B Station Code: Operators: KN User1: User2:			
Job Name: 11Apr11B.JOB Version: 5.62 Serial No: 963 Pump Time: 281:31 Flags:							
BP	Max 587	Min 579	Avg 582	mmHg	Timer Information:		Mass Concentration Data:
TA	-0.5	-5.7	-3.6	°C	Date dd-mmm	Time hh:mm:ss	Filter ID: IML25
Q	---	---	16.71	Lpm	Start: 11-09-apr	0:00:08	Final Wt: mg
QCV	0.54 %			Stop: 11-09-apr	23:59:05	Initial Wt: mg	
Max overheat 3.9 °C occured 09-apr 12:42:54				ET: 23:58	Delta Wt: 0.000 mg		Total Vol: 24.016 m^3
						Mass Conc: 0 µg/m3	
Notes 1: Notes 2:							



Hourly

11-09-apr	0:05:08	581	-4.1	-4.5	-0.3	25	16.71
11-09-apr	1:05:08	580	-4.1	-4.3	-0.2	26	16.71
11-09-apr	2:05:08	580	-4.1	-4.3	-0.1	26	16.71
11-09-apr	3:05:08	580	-4.3	-4.3	0.0	26	16.71
11-09-apr	4:05:08	580	-4.5	-4.5	0.0	26	16.72
11-09-apr	5:05:08	579	-4.6	-4.5	0.1	26	16.71
11-09-apr	6:05:08	580	-4.7	-4.7	0.0	27	16.72
11-09-apr	7:05:08	580	-4.8	-4.8	0.0	27	16.71
11-09-apr	8:05:08	580	-4.5	-4.3	0.2	27	16.71
11-09-apr	9:05:08	581	-4.3	-3.7	0.6	27	16.72
11-09-apr	10:05:08	581	-3.5	-1.8	1.7	27	16.70
11-09-apr	11:05:08	582	-2.8	-0.3	2.6	28	16.70
11-09-apr	12:05:08	582	-2.4	0.6	2.9	28	16.72
11-09-apr	13:05:08	583	-1.8	0.9	2.7	28	16.71
11-09-apr	14:05:08	583	-2.5	-0.2	2.2	28	16.70
11-09-apr	15:05:08	583	-1.8	0.6	2.4	28	16.71
11-09-apr	16:05:08	583	-1.5	0.1	1.6	28	16.72
11-09-apr	17:05:08	584	-1.3	-0.1	1.2	28	16.71
11-09-apr	18:05:08	585	-2.8	-1.7	1.1	28	16.72
11-09-apr	19:05:08	585	-4.2	-3.9	0.4	27	16.71
11-09-apr	20:05:08	586	-4.7	-5.4	-0.7	27	16.71
11-09-apr	21:05:08	586	-4.4	-5.1	-0.7	27	16.71
11-09-apr	22:05:08	587	-5.0	-5.6	-0.6	27	16.71
11-09-apr	23:05:08	587	-5.1	-5.9	-0.7	27	16.72

BGI PQ200 Air Sampling System

Downloaded 2011 18 apr 09:59:20

Job Details:

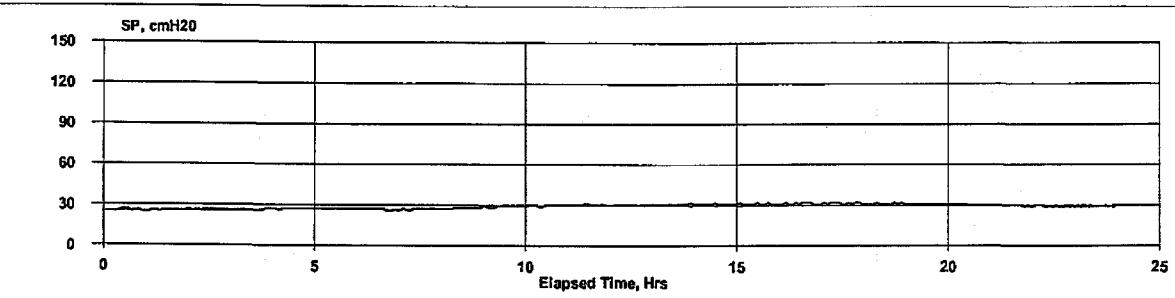
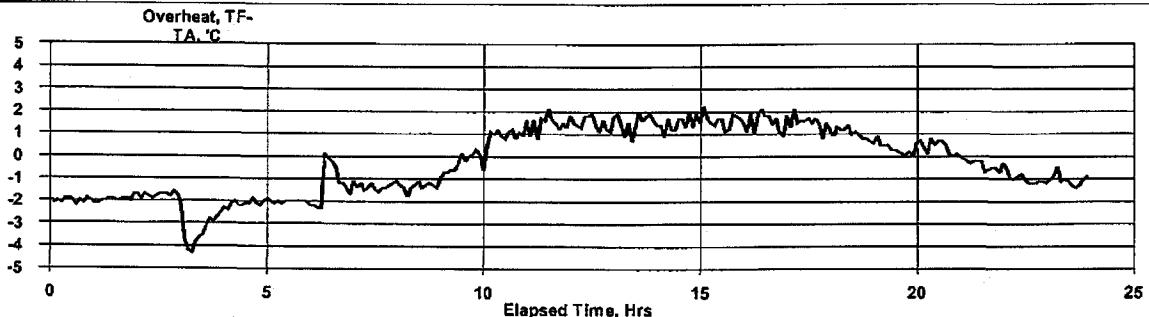
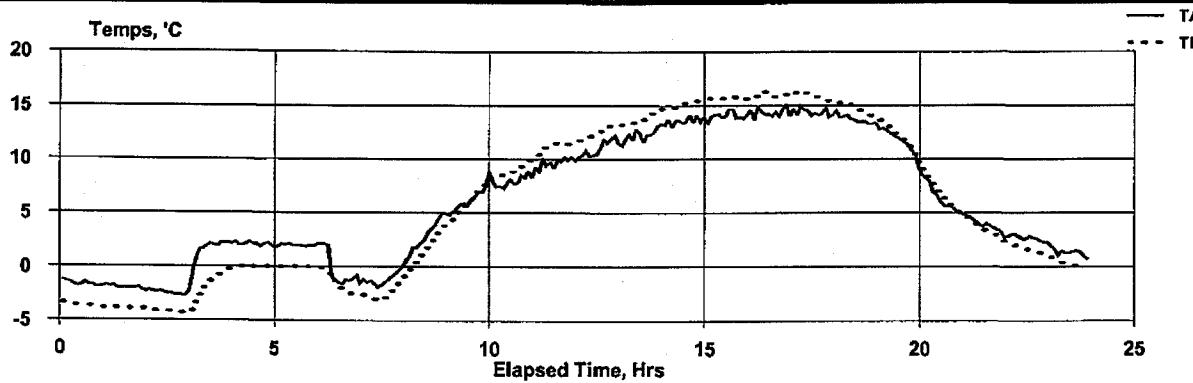
Job Name: 11Apr18B.JOB
 Version: 5.62
 Serial No: 963
 Pump Time: 305:30
 Flags:

Job Code:
 Site Name: 963B
 Station Code:
 Operators: kn
 User1:
 User2:

	Max	Min	Avg	Units	Timer Information:		Mass Concentration Data:	
BP	595	591	593	mmHg			Filter ID:	15
TA	15.4	-2.8	6	°C			Final Wt:	mg
Q	---	---	16.7	Lpm			Initial Wt:	mg
QCV	0.49 %				Start: 11-15-apr	Time: 0:00:08	Delta Wt:	0.000 mg
Max overheat 3.2 °C occurred 16-apr 16:07:01					Stop: 11-16-apr	0:00:05	Total Vol:	24.039 m^3
					ET: 23:59		Mass Conc:	0 µg/m³

Notes 1:

Notes 2:



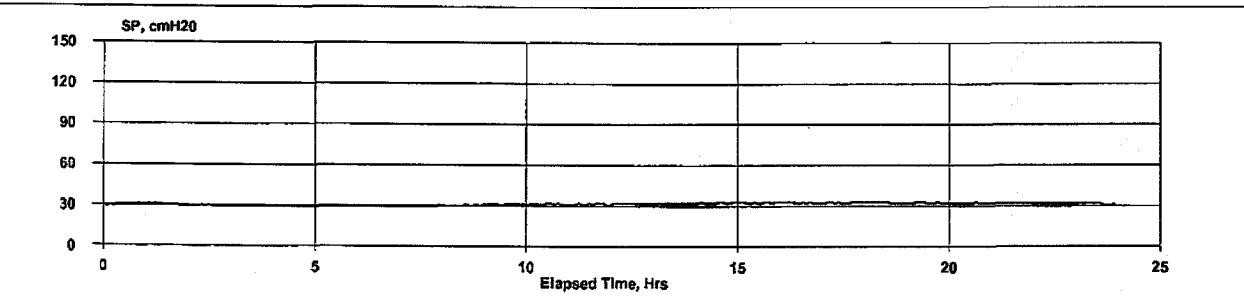
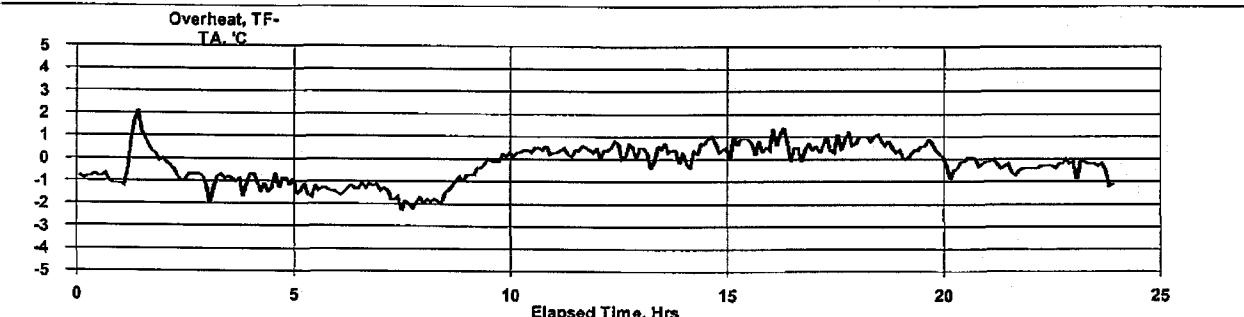
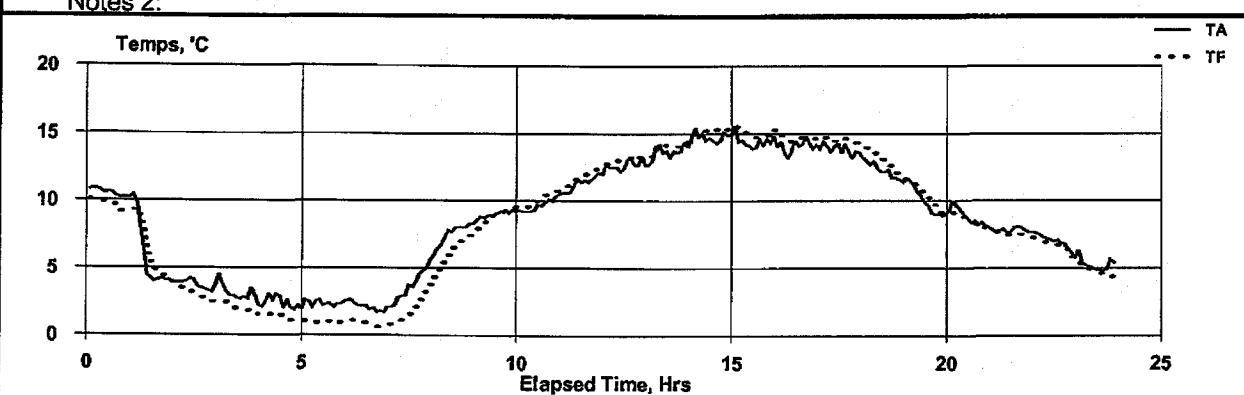
Hourly

11-15-apr	0:05:08	594	-1.7	-3.7	-2.0	25	16.71
11-15-apr	1:05:08	594	-2.0	-3.9	-1.9	26	16.72
11-15-apr	2:05:08	594	-2.5	-4.2	-1.8	26	16.71
11-15-apr	3:05:08	593	1.7	-1.6	-3.3	26	16.71
11-15-apr	4:05:08	593	2.1	0.0	-2.1	27	16.72
11-15-apr	5:05:08	593	2.0	0.0	-2.0	27	16.72
11-15-apr	6:05:08	594	-0.4	-1.6	-1.2	27	16.71
11-15-apr	7:05:08	594	-1.1	-2.5	-1.4	27	16.71
11-15-apr	8:05:08	594	2.9	1.6	-1.3	28	16.72
11-15-apr	9:05:08	594	6.3	6.0	-0.3	29	16.72
11-15-apr	10:05:08	594	8.0	9.0	1.0	30	16.71
11-15-apr	11:05:08	594	9.7	11.2	1.5	30	16.70
11-15-apr	12:05:08	594	11.1	12.5	1.5	31	16.71
11-15-apr	13:05:08	593	12.3	13.8	1.5	31	16.71
11-15-apr	14:05:08	593	13.6	15.1	1.5	31	16.72
11-15-apr	15:05:08	593	14.0	15.7	1.6	31	16.71
11-15-apr	16:05:08	592	14.4	15.9	1.5	31	16.70
11-15-apr	17:05:08	592	14.4	15.9	1.5	32	16.70
11-15-apr	18:05:08	592	13.7	14.7	1.0	31	16.71
11-15-apr	19:05:08	592	11.7	12.0	0.3	31	16.70
11-15-apr	20:05:08	592	6.4	6.8	0.4	30	16.71
11-15-apr	21:05:08	592	3.9	3.5	-0.4	30	16.71
11-15-apr	22:05:08	592	2.7	1.6	-1.0	29	16.72
11-15-apr	23:05:08	592	1.4	0.3	-1.0	29	16.72

BGI PQ200 Air Sampling System

Downloaded 2011 22 apr 10:52:31

Job Details:				Job Code: Site Name: 963B Station Code: Operators: kn User1: User2:
Job Name: 11Apr22B.JOB Version: 5.62 Serial No: 963 Pump Time: 329:29 Flags:				
BP	Max 589	Min 585	Avg 587	mmHg
TA	16.5	1.6	8.6	°C
Q	--	--	16.7	Lpm
QCV 0.52 %				
Max overheat 2.2 °C occured 21-apr 01:22:19				
ET: 23:59				
				Mass Concentration Data:
				Filter ID: 18 Final Wt: mg Initial Wt: mg Delta Wt: 0.000 mg Total Vol: 24.036 m^3
				Mass Conc: 0 µg/m3
Notes 1: Notes 2:				



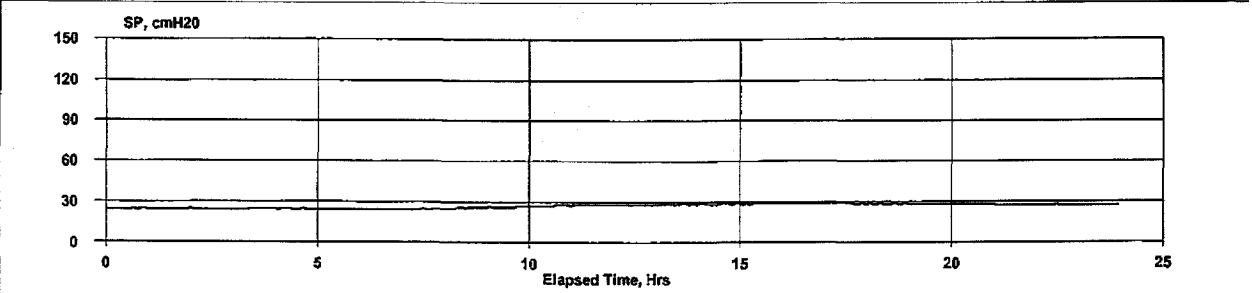
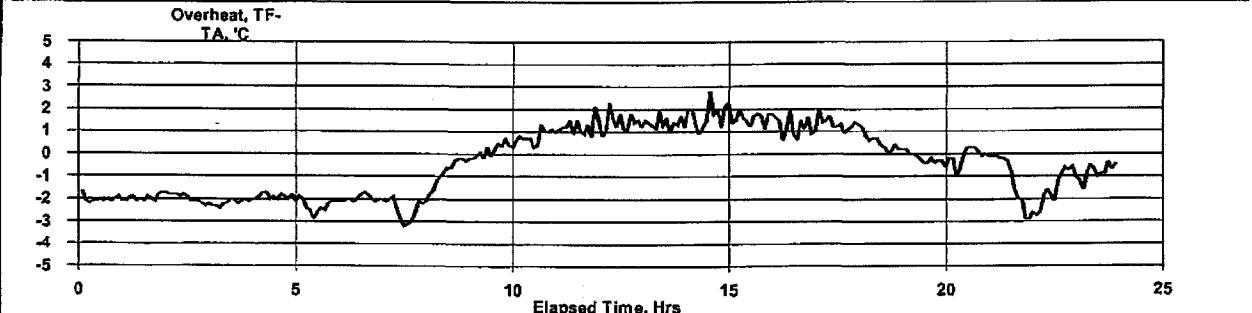
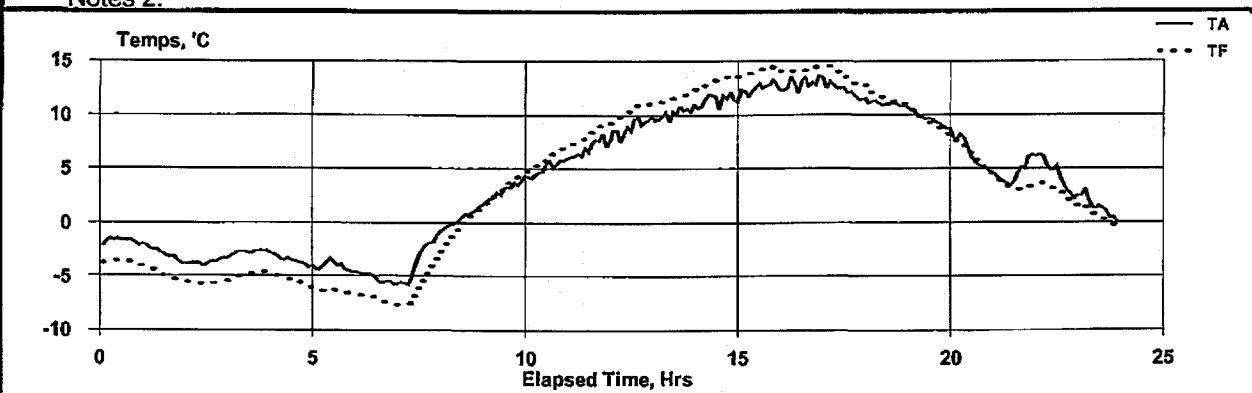
Hourly

11-21-apr	0:05:06	587	10.5	9.6	-0.9	30	16.71
11-21-apr	1:05:06	588	5.6	6.1	0.5	30	16.71
11-21-apr	2:05:06	588	3.7	3.0	-0.7	29	16.71
11-21-apr	3:05:06	587	3.1	2.0	-1.1	29	16.70
11-21-apr	4:05:06	587	2.4	1.3	-1.1	29	16.72
11-21-apr	5:05:06	587	2.4	1.0	-1.4	29	16.70
11-21-apr	6:05:06	587	2.1	0.8	-1.3	29	16.70
11-21-apr	7:05:06	587	3.7	1.8	-1.8	29	16.70
11-21-apr	8:05:06	587	7.6	6.1	-1.4	30	16.72
11-21-apr	9:05:06	587	9.0	8.8	-0.2	31	16.71
11-21-apr	10:05:06	587	9.7	10.1	0.4	31	16.71
11-21-apr	11:05:06	587	11.4	11.8	0.4	31	16.70
11-21-apr	12:05:06	587	12.7	13.1	0.4	32	16.72
11-21-apr	13:05:06	586	13.7	13.9	0.3	32	16.70
11-21-apr	14:05:06	586	14.8	15.2	0.4	32	16.70
11-21-apr	15:05:06	586	14.4	15.0	0.6	33	16.70
11-21-apr	16:05:06	586	14.1	14.7	0.6	33	16.71
11-21-apr	17:05:06	586	13.9	14.5	0.7	33	16.70
11-21-apr	18:05:06	587	12.3	13.1	0.8	33	16.70
11-21-apr	19:05:06	587	10.0	10.4	0.4	32	16.71
11-21-apr	20:05:06	587	8.8	8.6	-0.2	32	16.71
11-21-apr	21:05:06	588	7.8	7.5	-0.3	32	16.71
11-21-apr	22:05:06	588	6.9	6.6	-0.3	32	16.70
11-21-apr	23:05:06	588	5.2	4.8	-0.5	32	16.71

BGI PQ200 Air Sampling System

Downloaded 2011 29 apr 11:55:23

Job Details:				Job Code:		
				Site Name: 963B		
				Station Code:		
				Operators: KN		
				User1:		
				User2:		
BP	Max 593	Min 587	Avg 591	Units mmHg	Timer Information:	Mass Concentration Data:
TA	14.2	-5.9	3.9	°C	Date dd-mmm Start: 11-27-apr	Filter ID: 4
Q	---	---	16.7	Lpm	Time hh:mm:ss Stop: 11-28-apr 0:00:05	Final Wt: mg
QCV	0.5 %				ET: 23:59	Initial Wt: mg
Max overheat occurred	2.8 °C 27-apr 14:34:39					Delta Wt: 0.000 mg
Notes 1:						Total Vol: 24.038 m^3
Notes 2:						Mass Conc: 0 ug/m3



Hourly

11-27-apr	0:05:08	590	-1.7	-3.8	-2.0	24	16.71
11-27-apr	1:05:08	590	-3.0	-4.9	-1.9	24	16.71
11-27-apr	2:05:08	590	-3.7	-5.7	-2.0	24	16.72
11-27-apr	3:05:08	590	-2.7	-4.9	-2.2	25	16.71
11-27-apr	4:05:08	590	-3.6	-5.5	-1.9	24	16.71
11-27-apr	5:05:08	590	-4.1	-6.4	-2.3	24	16.70
11-27-apr	6:05:08	591	-5.2	-7.2	-2.0	24	16.71
11-27-apr	7:05:08	591	-3.3	-5.7	-2.5	24	16.71
11-27-apr	8:05:08	591	0.6	-0.2	-0.7	26	16.70
11-27-apr	9:05:08	591	3.1	3.3	0.2	26	16.71
11-27-apr	10:05:08	592	5.1	5.9	0.8	27	16.72
11-27-apr	11:05:08	592	7.0	8.3	1.3	28	16.70
11-27-apr	12:05:08	592	9.0	10.4	1.4	28	16.71
11-27-apr	13:05:08	592	10.2	11.6	1.4	28	16.70
11-27-apr	14:05:08	592	11.4	13.1	1.8	29	16.70
11-27-apr	15:05:08	591	12.5	14.1	1.6	29	16.71
11-27-apr	16:05:08	591	12.9	14.1	1.2	29	16.72
11-27-apr	17:05:08	591	12.2	13.5	1.4	29	16.71
11-27-apr	18:05:08	592	11.0	11.5	0.5	28	16.71
11-27-apr	19:05:08	592	9.5	9.3	-0.2	28	16.70
11-27-apr	20:05:08	592	6.3	6.2	-0.1	28	16.71
11-27-apr	21:05:08	593	4.7	3.4	-1.3	27	16.72
11-27-apr	22:05:08	593	4.2	2.8	-1.5	27	16.72
11-27-apr	23:05:08	593	1.4	0.5	-0.8	27	16.70

BGI PQ200 Air Sampling System

Downloaded 2011_04 may 10:28:25

Job Details:				Job Code: Site Name: 963B Station Code: Operators: KN User1: User2:
Job Name: 11May04B.JOB Version: 5.62 Serial No: 963 Pump Time: 377:27 Flags:				
BP	Max 596	Min 592	Avg 593	mmHg
TA	18.7	-2.4	8.3	°C
Q	---	---	16.7	Lpm
QCV 0.52 %				Timer Information:
				Date dd-mmm Start: 11-03-may Time hh:mm:ss 0:00:08
				Stop: 11-04-may 0:00:05
Max overheat 2.1 °C occurred 03-may 12:08:30				ET: 23:59
				Mass Concentration Data:
				Filter ID: 7 mg
				Initial Wt: mg
				Delta Wt: 0.000 mg
				Total Vol: 24.038 m³
				Mass Conc: 0 ug/m³
Notes 1: Notes 2:				
<p>Temps, °C</p> <p>Elapsed Time, Hrs</p> <p>Legend: TA (solid line), TF (dotted line)</p>				
<p>Overheat, TF - TA, °C</p> <p>Elapsed Time, Hrs</p>				
<p>SP, cmH2O</p> <p>Elapsed Time, Hrs</p>				

Hourly

11-03-may	0:05:08	595	-0.5	-2.1	-1.7	24	16.69
11-03-may	1:05:08	595	-0.2	-2.1	-2.0	25	16.71
11-03-may	2:05:08	595	-1.2	-2.9	-1.6	25	16.72
11-03-may	3:05:08	595	-1.0	-3.2	-2.2	25	16.71
11-03-may	4:05:08	595	-1.4	-3.4	-2.0	25	16.71
11-03-may	5:05:08	595	-1.3	-3.4	-2.1	25	16.71
11-03-may	6:05:08	595	-0.9	-3.0	-2.1	25	16.72
11-03-may	7:05:08	595	1.1	-1.1	-2.2	25	16.71
11-03-may	8:05:08	595	7.3	5.2	-2.1	27	16.71
11-03-may	9:05:08	595	10.8	10.8	0.0	28	16.71
11-03-may	10:05:08	595	12.3	13.2	0.9	29	16.71
11-03-may	11:05:08	595	14.0	15.1	1.2	30	16.71
11-03-may	12:05:08	595	15.2	16.1	1.0	30	16.71
11-03-may	13:05:08	594	16.2	16.9	0.7	30	16.71
11-03-may	14:05:08	594	16.9	17.6	0.7	30	16.71
11-03-may	15:05:08	593	17.1	18.1	1.0	30	16.72
11-03-may	16:05:08	593	17.3	18.2	0.9	30	16.72
11-03-may	17:05:08	592	17.6	18.3	0.8	30	16.71
11-03-may	18:05:08	592	16.9	17.5	0.7	30	16.69
11-03-may	19:05:08	592	15.1	15.4	0.3	30	16.71
11-03-may	20:05:08	592	10.4	10.7	0.3	30	16.70
11-03-may	21:05:08	592	6.5	6.2	-0.3	29	16.71
11-03-may	22:05:08	592	5.5	4.3	-1.2	29	16.71
11-03-may	23:05:08	592	4.5	3.2	-1.3	29	16.70

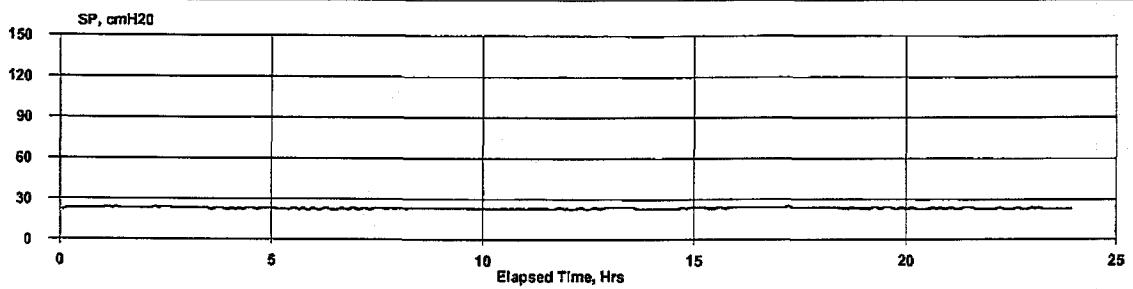
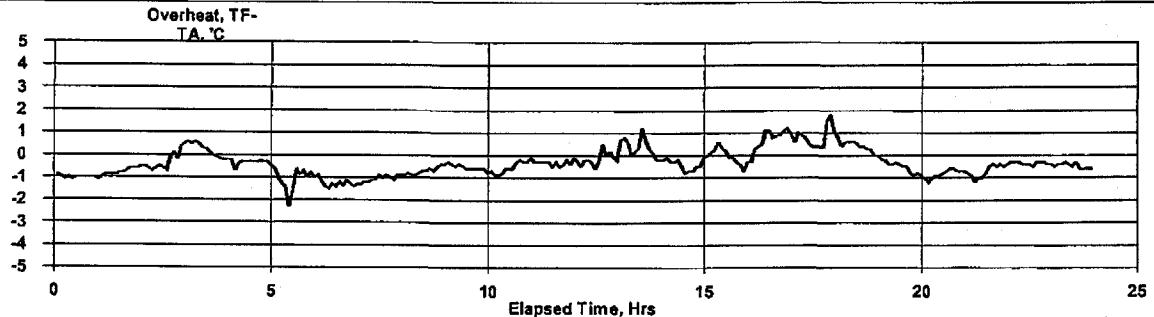
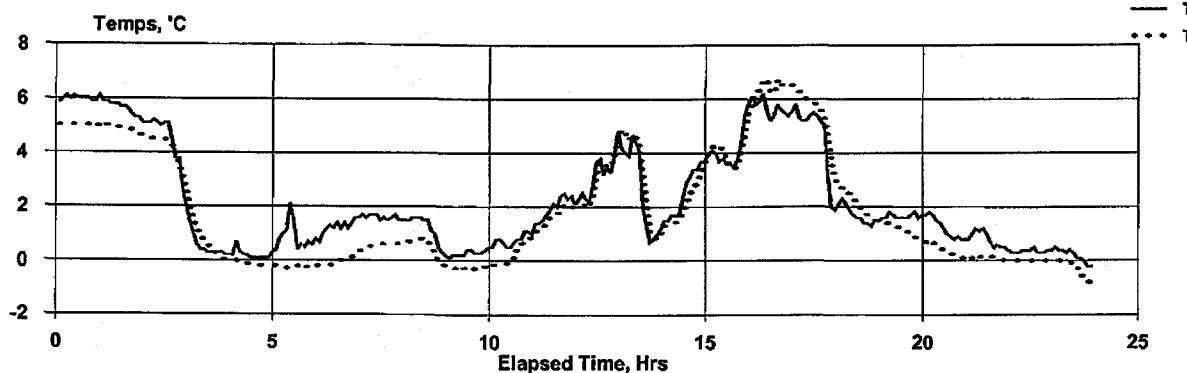
BGI PQ200 Air Sampling System

Downloaded 2011 10 may 10:01:16

Job Details:							
Job Name: 11May10B.JOB Version: 5.62 Serial No: 963 Pump Time: 401:26 Flags:				Job Code: Site Name: 962B Station Code: Operators: kn User1: User2:			
BP	Max 584	Min 579	Avg 581	Units mmHg	Timer Information:		Mass Concentration Data:
TA	6.9	-0.3	2.3	°C	Date dd-mmm	Time hh:mm:ss	Filter ID: 10
Q	---	---	16.7	Lpm	Start: 11-09-may	0:00:08	Final Wt: mg
QCV 0.51 %				Stop: 11-10-may	0:00:05	Initial Wt: mg	
Max overheat 2 °C occurred 09-may 17:51:26				ET: 23:59		Delta Wt: 0.000 mg	
						Total Vol: 24.037 m^3	
						Mass Conc: 0 µg/m³	

Notes 1:

Notes 2:



Hourly

11-09-may	0:05:08	581	6.0	5.0	-1.0	23	16.71
11-09-may	1:05:08	581	5.6	4.8	-0.8	23	16.71
11-09-may	2:05:08	580	4.4	4.1	-0.3	23	16.70
11-09-may	3:05:08	581	0.5	0.7	0.2	23	16.70
11-09-may	4:05:08	581	0.2	-0.1	-0.4	23	16.71
11-09-may	5:05:08	580	0.9	-0.2	-1.1	22	16.71
11-09-may	6:05:08	580	1.3	0.0	-1.3	22	16.71
11-09-may	7:05:08	581	1.6	0.6	-1.1	23	16.71
11-09-may	8:05:08	581	1.2	0.5	-0.7	23	16.70
11-09-may	9:05:08	581	0.3	-0.3	-0.5	23	16.71
11-09-may	10:05:08	581	0.8	0.3	-0.5	23	16.70
11-09-may	11:05:08	582	2.0	1.7	-0.3	23	16.71
11-09-may	12:05:08	582	3.2	3.0	-0.2	23	16.71
11-09-may	13:05:08	582	2.7	3.1	0.4	24	16.71
11-09-may	14:05:08	582	2.6	2.1	-0.4	23	16.70
11-09-may	15:05:08	582	4.1	4.1	0.0	24	16.71
11-09-may	16:05:08	582	5.7	6.4	0.8	24	16.71
11-09-may	17:05:08	582	4.6	5.4	0.8	24	16.71
11-09-may	18:05:08	583	1.7	2.1	0.4	24	16.70
11-09-may	19:05:08	583	1.7	1.1	-0.5	24	16.71
11-09-may	20:05:08	583	1.2	0.4	-0.8	23	16.72
11-09-may	21:05:08	584	0.8	0.1	-0.7	23	16.70
11-09-may	22:05:08	584	0.4	0.0	-0.4	23	16.71
11-09-may	23:05:08	584	0.2	-0.3	-0.5	23	16.71

BGI PQ200 Air Sampling System

Downloaded 2011 16 may 10:29:37

Job Details:

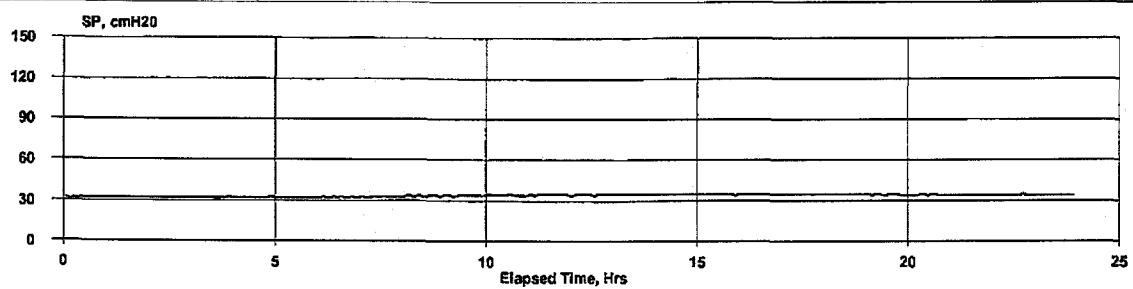
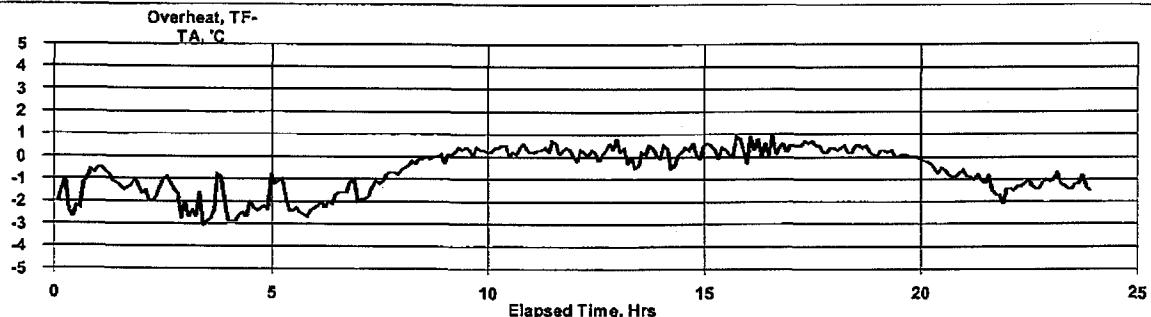
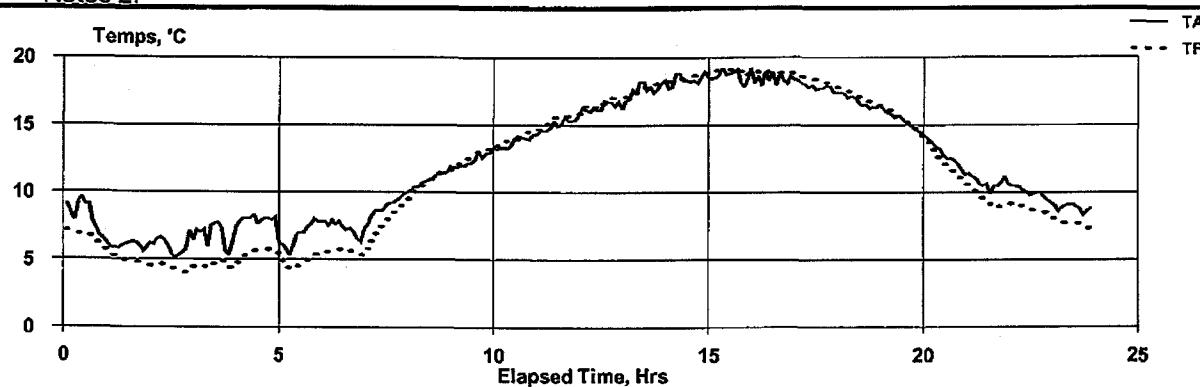
Job Name: 11May16B.JOB
 Version: 5.62
 Serial No: 963
 Pump Time: 425:25
 Flags:

Job Code:
 Site Name: 963B
 Station Code:
 Operators: KN
 User1:
 User2:

	Max	Min	Avg	Units	Timer Information:		Mass Concentration Data:	
BP	588	585	586	mmHg			Filter ID:	13
TA	19.6	4.8	12.2	°C			Final Wt:	mg
Q	---	---	16.71	Lpm			Initial Wt:	mg
QCV	0.47 %				Start: 11-15-may	Time: 0:00:08	Delta Wt:	0.000 mg
Max overheat occurred 15-may 15:44:17					Stop: 11-16-may		Total Vol:	24.038 m^3
					ET: 23:59		Mass Conc:	0 µg/m3

Notes 1:

Notes 2:



Hourly

11-15-may	0:05:08	587	8.1	6.6	-1.5	32	16.73
11-15-may	1:05:08	587	6.0	4.9	-1.2	32	16.71
11-15-may	2:05:08	587	6.0	4.4	-1.7	32	16.70
11-15-may	3:05:08	587	6.8	4.6	-2.3	32	16.72
11-15-may	4:05:08	587	7.8	5.5	-2.3	32	16.72
11-15-may	5:05:08	587	6.9	4.8	-2.1	32	16.69
11-15-may	6:05:08	587	7.3	5.5	-1.8	32	16.70
11-15-may	7:05:08	587	9.0	7.8	-1.2	33	16.70
11-15-may	8:05:08	587	11.0	10.8	-0.2	34	16.71
11-15-may	9:05:08	588	12.4	12.7	0.3	34	16.71
11-15-may	10:05:08	588	13.8	14.1	0.3	34	16.72
11-15-may	11:05:08	588	15.1	15.4	0.3	35	16.71
11-15-may	12:05:08	587	16.4	16.6	0.2	35	16.71
11-15-may	13:05:08	587	17.7	17.7	0.0	35	16.70
11-15-may	14:05:08	586	18.4	18.5	0.2	35	16.71
11-15-may	15:05:08	586	18.7	19.0	0.3	35	16.71
11-15-may	16:05:08	586	18.4	18.9	0.5	35	16.71
11-15-may	17:05:08	586	17.8	18.3	0.5	35	16.71
11-15-may	18:05:08	586	16.7	17.0	0.3	35	16.70
11-15-may	19:05:08	586	15.3	15.4	0.1	35	16.70
11-15-may	20:05:08	586	12.8	12.2	-0.6	34	16.71
11-15-may	21:05:08	586	10.7	9.5	-1.3	34	16.72
11-15-may	22:05:08	587	10.0	8.7	-1.3	34	16.71
11-15-may	23:05:08	587	8.8	7.6	-1.2	34	16.71

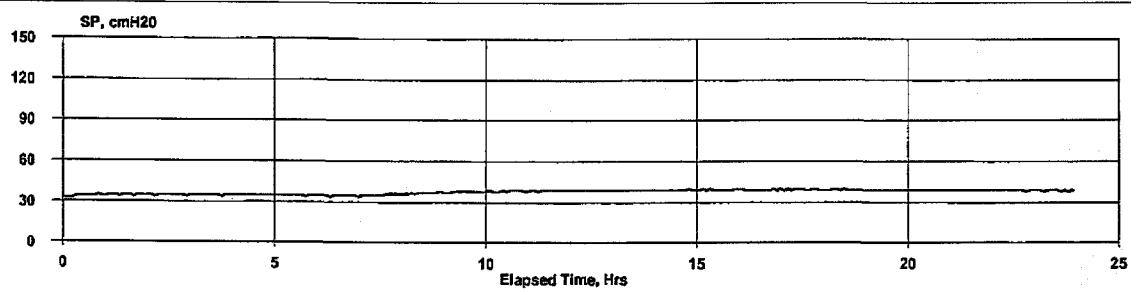
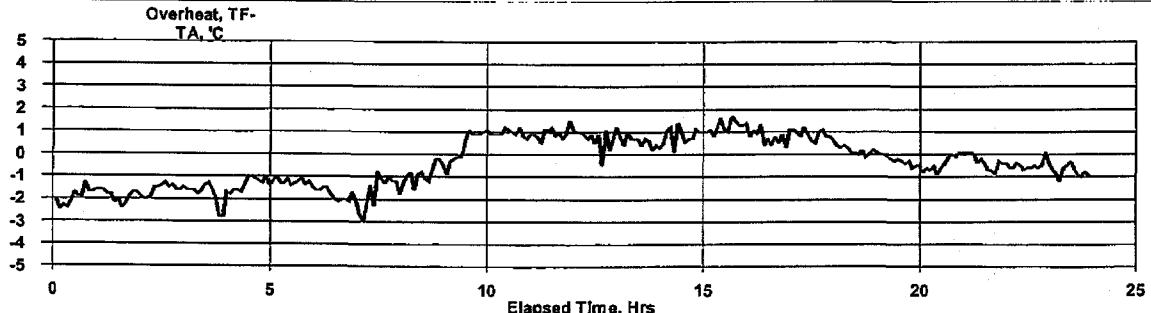
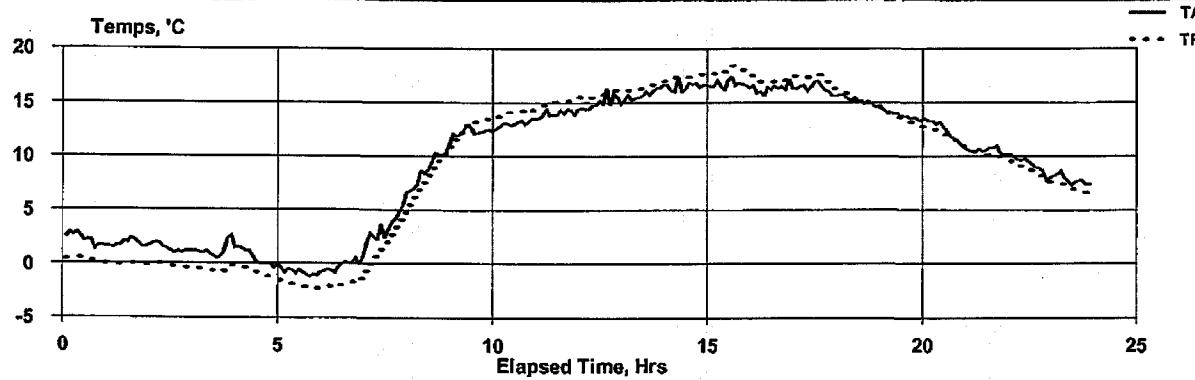
BGI PQ200 Air Sampling System

Downloaded 2011_23 may 11:10:28

Job Details:							
Job Name: 11May23B.JOB Version: 5.62 Serial No: 963 Pump Time: 449:24 Flags:				Job Code: Site Name: N963B Station Code: Operators: JKSR User1: User2:			
BP	Max 591	Min 588	Avg 589	Units mmHg	Timer Information:		Mass Concentration Data:
TA	17.9	-1.3	9.4	°C	Date dd-mmm	Time hh:mm:ss	Filter ID: 7
Q	---	---	16.7	Lpm	Start: 11-21-may	0:00:08	Final Wt: mg
QCV	0.54 %			Stop: 11-22-may	0:00:04	Initial Wt: mg	
Max overheat 4 °C occurred 22-may 16:50:05				ET: 23:59		Delta Wt: 0.000 mg	
						Total Vol: 24.038 m³	
						Mass Conc: 0 µg/m³	

Notes 1:

Notes 2:



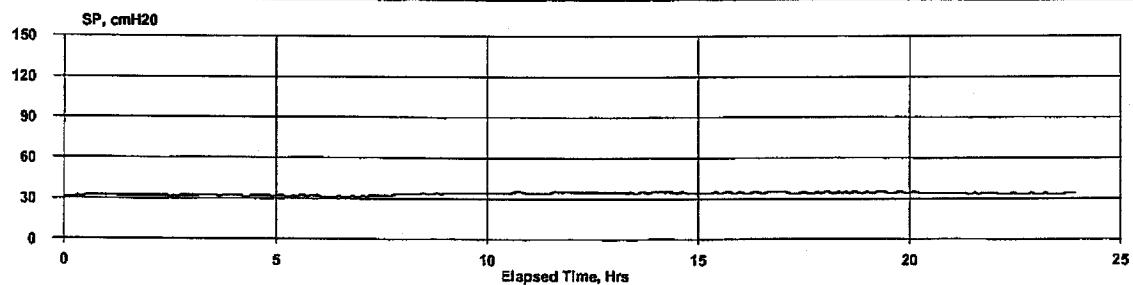
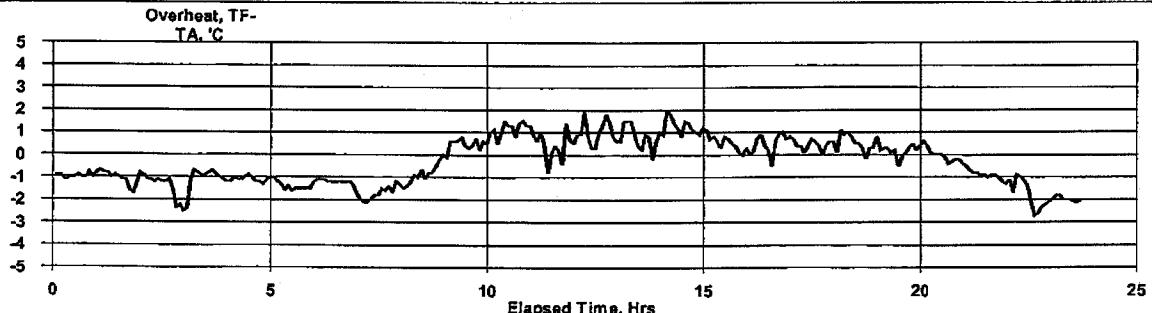
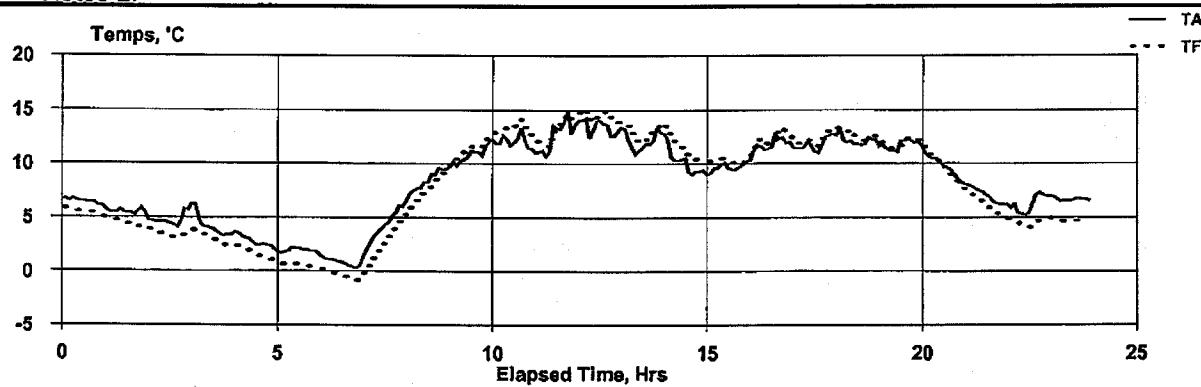
Hourly

11-21-may	0:05:08	591	2.2	0.3	-1.9	34	16.71
11-21-may	1:05:08	590	1.8	-0.1	-1.9	35	16.70
11-21-may	2:05:08	590	1.4	-0.2	-1.6	35	16.70
11-21-may	3:05:08	590	1.3	-0.6	-1.8	35	16.71
11-21-may	4:05:08	590	0.5	-0.9	-1.3	35	16.71
11-21-may	5:05:08	590	-0.8	-2.1	-1.3	35	16.71
11-21-may	6:05:08	590	-0.1	-1.9	-1.8	35	16.70
11-21-may	7:05:08	590	3.6	2.0	-1.7	35	16.70
11-21-may	8:05:08	591	9.1	8.2	-0.9	37	16.71
11-21-may	9:05:08	591	12.3	12.7	0.4	38	16.71
11-21-may	10:05:08	590	13.1	14.1	0.9	39	16.72
11-21-may	11:05:08	590	14.1	15.0	1.0	39	16.71
11-21-may	12:05:08	590	15.0	15.7	0.7	39	16.71
11-21-may	13:05:08	590	15.8	16.4	0.6	39	16.70
11-21-may	14:05:08	590	16.5	17.4	0.9	39	16.70
11-21-may	15:05:08	590	16.7	17.9	1.3	39	16.72
11-21-may	16:05:08	589	16.3	17.1	0.8	39	16.71
11-21-may	17:05:08	589	16.3	17.2	0.9	40	16.72
11-21-may	18:05:08	589	15.1	15.3	0.2	39	16.71
11-21-may	19:05:08	589	13.8	13.5	-0.3	39	16.71
11-21-may	20:05:08	589	12.4	12.0	-0.4	39	16.71
11-21-may	21:05:08	589	10.5	10.2	-0.4	39	16.70
11-21-may	22:05:08	589	9.2	8.7	-0.5	39	16.70
11-21-may	23:05:08	589	7.8	7.1	-0.8	39	16.71

BGI PQ200 Air Sampling System

Downloaded 2011 30 may 11:03:13

Job Details:				Job Code: Site Name: 963B Station Code: Operators: KN User1: User2:		
Job Name: 11May30B.JOB Version: 5.62 Serial No: 963 Pump Time: 473:23 Flags:						
BP	Max 591	Min 583	Avg 587	Units mmHg	Timer Information:	
TA	15.2	0.2	8.3	°C	Date dd-mmm	Time hh:mm:ss
Q	---	---	16.7	Lpm	Start: 11-24-may	0:00:08
QCV	0.55 %			Stop: 11-25-may	0:00:05	
Max overheat 2.4 °C occurred 24-may 12:13:43				ET:	23:59	
				Mass Concentration Data: Filter ID: 7 Final Wt: mg Initial Wt: mg Delta Wt: 0.000 mg Total Vol: 24.038 m³ Mass Conc: 0 µg/m³		
Notes 1: Notes 2:						



Hourly

11-24-may	0:05:08	586	6.4	5.4	-1.0	32	16.72
11-24-may	1:05:08	586	5.4	4.4	-1.1	32	16.71
11-24-may	2:05:08	586	4.9	3.4	-1.5	32	16.71
11-24-may	3:05:08	586	4.0	3.0	-1.0	32	16.71
11-24-may	4:05:08	586	2.6	1.5	-1.1	32	16.71
11-24-may	5:05:08	586	1.9	0.5	-1.4	32	16.69
11-24-may	6:05:08	586	0.8	-0.4	-1.2	31	16.70
11-24-may	7:05:08	587	4.4	2.7	-1.7	32	16.73
11-24-may	8:05:08	587	8.6	7.7	-0.8	33	16.72
11-24-may	9:05:08	587	10.9	11.4	0.5	34	16.71
11-24-may	10:05:08	588	12.0	13.2	1.2	34	16.71
11-24-may	11:05:08	588	12.8	13.2	0.4	35	16.71
11-24-may	12:05:08	588	13.4	14.4	1.0	35	16.71
11-24-may	13:05:08	588	12.1	12.9	0.8	35	16.71
11-24-may	14:05:08	589	10.0	11.2	1.3	35	16.71
11-24-may	15:05:08	589	9.8	10.3	0.5	34	16.71
11-24-may	16:05:08	589	11.8	12.3	0.5	35	16.71
11-24-may	17:05:08	589	11.9	12.3	0.4	34	16.72
11-24-may	18:05:08	589	12.1	12.6	0.5	35	16.71
11-24-may	19:05:08	590	11.7	11.9	0.2	34	16.71
11-24-may	20:05:08	590	9.6	9.6	0.0	34	16.71
11-24-may	21:05:08	590	7.0	6.1	-0.9	34	16.71
11-24-may	22:05:08	591	6.3	4.5	-1.8	33	16.71
11-24-may	23:05:08	591	6.7	4.7	-2.0	33	16.72

BGI PQ200 Air Sampling System

Downloaded 2011 03 jun 09:37:42

Job Details:

Job Name: 11Jun03B.JOB

Version: 5.62

Serial No: 963

Pump Time: 497:22

Flags:

Job Code:

Site Name: 963B

Station Code:

Operators: KN

User1:

User2:

	Max	Min	Avg	Units
BP	590	586	588	mmHg
TA	17.6	3.1	10.5	°C
Q	---	---	16.7	Lpm

QCV 0.52 %

 Max overheat 1.9 °C
 occurred 02-jun 15:34:23

Timer Information:

Date	Time
dd-mmm	hh:mm:ss
Start: 11-02-jun	0:00:08
Stop: 11-03-jun	0:00:05

ET: 23:59

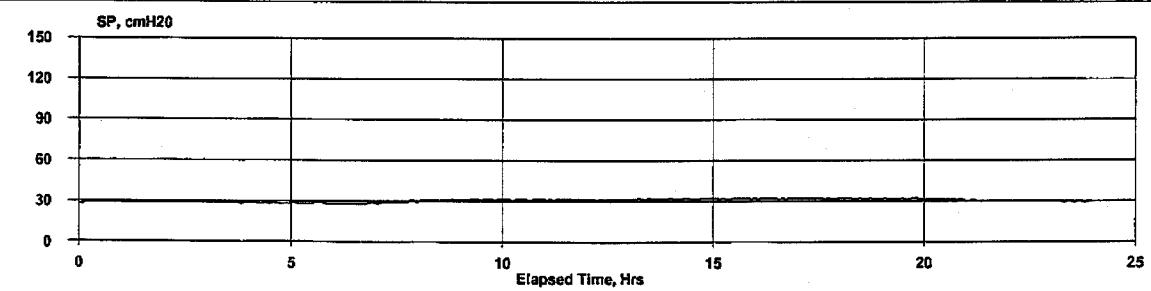
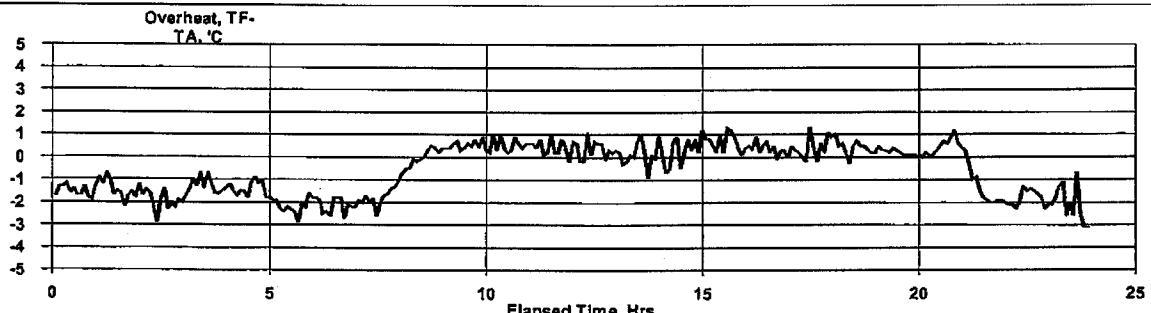
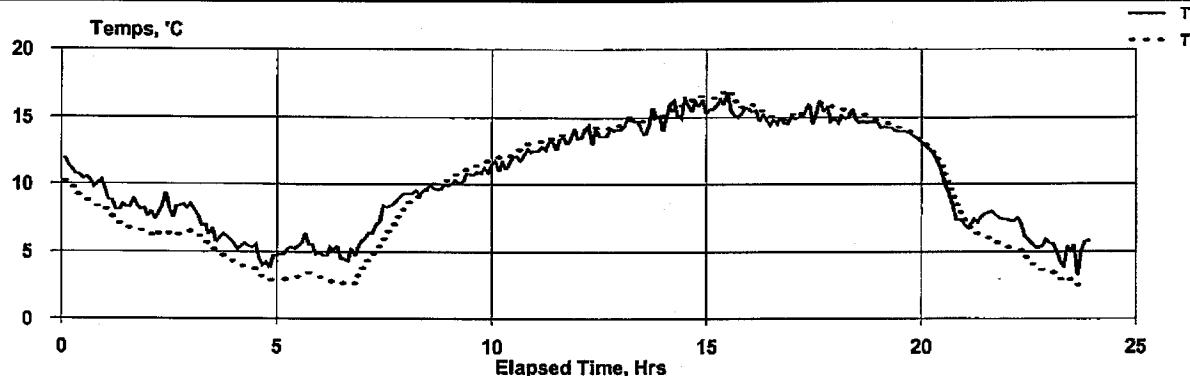
Mass Concentration Data:

Filter ID:	10
Final Wt:	mg
Initial Wt:	mg
Delta Wt:	0.000 mg
Total Vol:	24.038 m^3

Mass Conc: 0 µg/m³

Notes 1:

Notes 2:



Hourly

11-02-jun	0:05:08	588	10.6	9.0	-1.5	29	16.70
11-02-jun	1:05:08	588	8.3	6.9	-1.4	29	16.71
11-02-jun	2:05:08	588	8.2	6.3	-2.0	29	16.71
11-02-jun	3:05:08	588	6.5	5.2	-1.3	29	16.71
11-02-jun	4:05:08	588	4.9	3.4	-1.4	28	16.70
11-02-jun	5:05:08	588	5.3	3.1	-2.2	28	16.71
11-02-jun	6:05:08	588	5.0	2.8	-2.2	28	16.70
11-02-jun	7:05:08	589	7.8	6.1	-1.8	29	16.71
11-02-jun	8:05:08	589	9.6	9.6	0.0	30	16.70
11-02-jun	9:05:08	589	10.7	11.2	0.5	31	16.71
11-02-jun	10:05:08	589	11.9	12.4	0.5	31	16.71
11-02-jun	11:05:08	589	13.1	13.6	0.4	31	16.69
11-02-jun	12:05:08	590	13.9	14.2	0.3	31	16.71
11-02-jun	13:05:08	590	14.6	14.8	0.2	31	16.70
11-02-jun	14:05:08	590	15.7	16.0	0.3	32	16.70
11-02-jun	15:05:08	590	15.7	16.4	0.6	32	16.71
11-02-jun	16:05:08	589	14.9	15.2	0.4	32	16.71
11-02-jun	17:05:08	589	15.3	15.7	0.4	32	16.71
11-02-jun	18:05:08	589	14.8	15.2	0.4	31	16.71
11-02-jun	19:05:08	589	13.9	14.1	0.2	31	16.71
11-02-jun	20:05:08	589	10.2	10.6	0.5	31	16.71
11-02-jun	21:05:08	589	7.5	6.1	-1.4	30	16.71
11-02-jun	22:05:08	589	6.2	4.4	-1.8	30	16.71
11-02-jun	23:05:08	589	4.9	2.8	-2.1	30	16.70

BGI PQ200 Air Sampling System

Downloaded 2011_09_jun_10:45:56

Job Details:				Job Code: Site Name: 963B Station Code: Operators: KN User1: User2:	
Job Name: 11Jun09B.JOB Version: 5.62 Serial No: 963 Pump Time: 521:21 Flags:				BP Max 590 Min 587 Avg 588 Units mmHg TA 21.8 °C Q --- Lpm	
QCV 0.48 % Max overheated 2.5 °C occurred 08-jun 14:34:38				Timer Information: Date dd-mmm Start: 11-08-jun Stop: 11-09-jun Time hh:mm:ss ET: 23:59	
				Mass Concentration Data: Filter ID: 5 mg Final Wt: mg Initial Wt: mg Delta Wt: 0.000 mg Total Vol: 24.036 m^3 Mass Conc: 0 µg/m3	
Notes 1: Notes 2:					
<p>Temps, °C</p> <p>TA</p> <p>TF</p> <p>Elapsed Time, Hrs</p>					
<p>Overheat, TF - TA, °C</p> <p>Elapsed Time, Hrs</p>					
<p>SP, cmH2O</p> <p>Elapsed Time, Hrs</p>					

Hourly

11-08-jun	0:05:08	589	5.8	4.4	-1.4	23	16.71
11-08-jun	1:05:08	589	5.0	3.4	-1.6	23	16.71
11-08-jun	2:05:08	589	3.9	2.4	-1.5	23	16.72
11-08-jun	3:05:08	589	4.0	2.3	-1.8	23	16.71
11-08-jun	4:05:08	589	3.7	2.0	-1.6	23	16.71
11-08-jun	5:05:08	589	2.0	0.8	-1.3	23	16.71
11-08-jun	6:05:08	589	2.9	0.8	-2.1	23	16.70
11-08-jun	7:05:08	589	8.5	6.0	-2.5	24	16.70
11-08-jun	8:05:08	589	14.2	12.8	-1.4	25	16.71
11-08-jun	9:05:08	589	15.7	16.1	0.4	26	16.70
11-08-jun	10:05:08	589	16.5	17.2	0.7	26	16.72
11-08-jun	11:05:08	589	17.4	18.2	0.8	27	16.72
11-08-jun	12:05:08	589	18.3	19.1	0.8	27	16.68
11-08-jun	13:05:08	589	19.4	19.6	0.3	27	16.72
11-08-jun	14:05:08	589	19.9	20.5	0.6	27	16.71
11-08-jun	15:05:08	589	20.0	20.9	0.9	28	16.71
11-08-jun	16:05:08	588	20.3	21.3	1.0	28	16.70
11-08-jun	17:05:08	589	20.0	21.1	1.1	28	16.71
11-08-jun	18:05:08	589	19.4	20.3	0.9	28	16.71
11-08-jun	19:05:08	589	18.0	18.5	0.6	27	16.70
11-08-jun	20:05:08	589	15.3	15.4	0.1	27	16.71
11-08-jun	21:05:08	589	11.2	10.8	-0.4	27	16.70
11-08-jun	22:05:08	590	8.1	7.6	-0.5	26	16.71
11-08-jun	23:05:08	590	6.6	5.5	-1.1	26	16.71

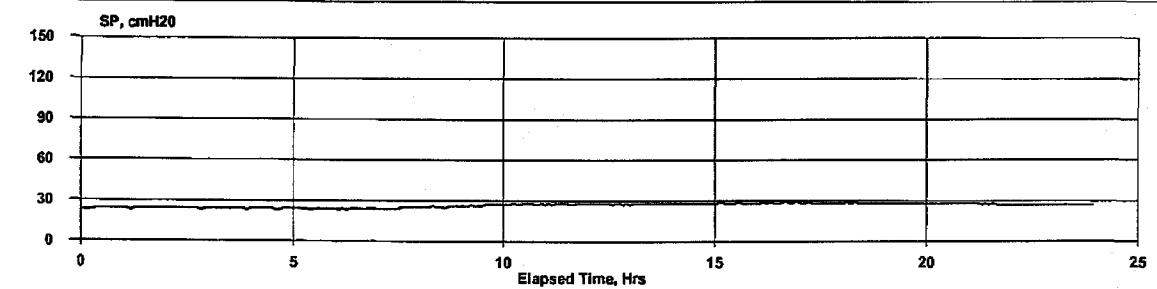
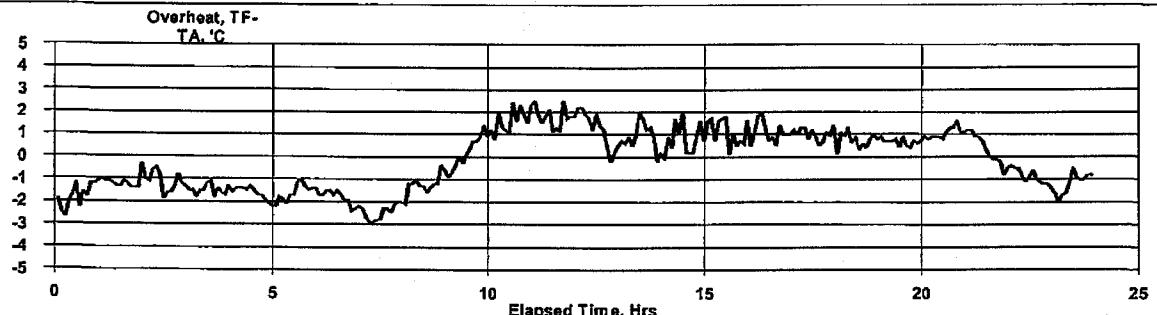
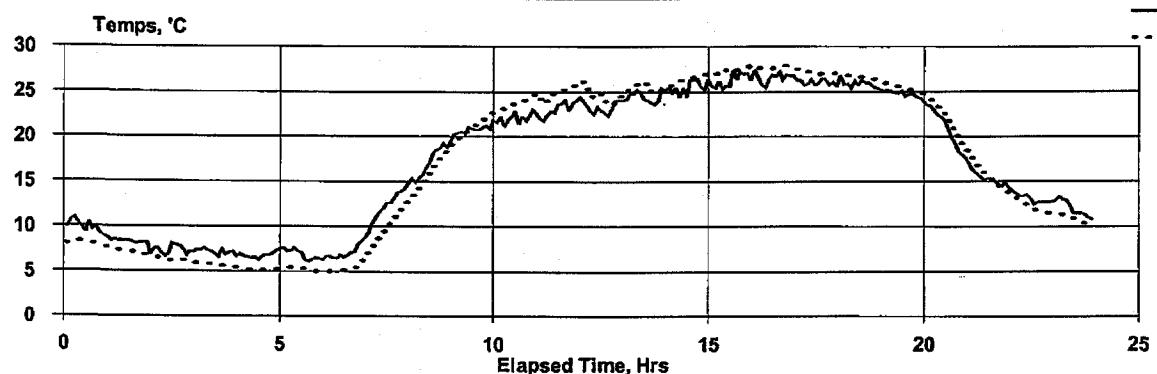
BGI PQ200 Air Sampling System

Downloaded 2011 17 jun 21:20:12

Job Details:				Job Code: Site Name: 963B Station Code: Operators: kn User1: User2:															
Job Name: 11Jun17B.JOB Version: 5.62 Serial No: 963 Pump Time: 545:20 Flags:																			
<table border="1"> <tr> <td>BP</td> <td>Max 595</td> <td>Min 590</td> <td>Avg 593</td> <td>Units mmHg</td> </tr> <tr> <td>TA</td> <td>28.2</td> <td>6.1</td> <td>17.3</td> <td>°C</td> </tr> <tr> <td>Q</td> <td>---</td> <td>---</td> <td>16.7</td> <td>Lpm</td> </tr> </table>				BP	Max 595	Min 590	Avg 593	Units mmHg	TA	28.2	6.1	17.3	°C	Q	---	---	16.7	Lpm	Timer Information:
BP	Max 595	Min 590	Avg 593	Units mmHg															
TA	28.2	6.1	17.3	°C															
Q	---	---	16.7	Lpm															
<table border="1"> <tr> <td>Start: 11-14-jun</td> <td>Time: 0:00:08</td> </tr> <tr> <td>Stop: 11-15-jun</td> <td>0:00:05</td> </tr> </table>				Start: 11-14-jun	Time: 0:00:08	Stop: 11-15-jun	0:00:05	Date dd-mmm ET: 23:59											
Start: 11-14-jun	Time: 0:00:08																		
Stop: 11-15-jun	0:00:05																		
QCV 0.52 % Max overheat 3.1 °C occurred 14-jun 12:06:15				Time hh:mm:ss															
				Mass Concentration Data:															
				Filter ID: 19 Final Wt: mg Initial Wt: mg Delta Wt: 0.000 mg Total Vol: 24.037 m³															
				Mass Conc: 0 µg/m³															

Notes 1:

Notes 2:



Hourly

11-14-jun	0:05:08	592	9.8	8.0	-1.8	24	16.70
11-14-jun	1:05:08	592	8.2	7.0	-1.2	24	16.69
11-14-jun	2:05:08	593	7.4	6.2	-1.1	24	16.71
11-14-jun	3:05:08	593	7.1	5.7	-1.5	24	16.71
11-14-jun	4:05:08	593	6.8	5.2	-1.6	24	16.72
11-14-jun	5:05:08	593	6.8	5.2	-1.6	24	16.72
11-14-jun	6:05:08	593	7.2	5.4	-1.8	24	16.72
11-14-jun	7:05:08	594	12.4	10.0	-2.5	25	16.70
11-14-jun	8:05:08	594	17.3	16.1	-1.2	25	16.71
11-14-jun	9:05:08	595	20.8	21.1	0.2	27	16.72
11-14-jun	10:05:08	595	22.1	23.7	1.6	27	16.70
11-14-jun	11:05:08	594	23.2	25.0	1.8	28	16.71
11-14-jun	12:05:08	594	23.3	24.5	1.2	28	16.71
11-14-jun	13:05:08	594	24.5	25.4	0.9	28	16.72
11-14-jun	14:05:08	594	25.5	26.4	0.8	28	16.71
11-14-jun	15:05:08	594	26.3	27.4	1.1	28	16.72
11-14-jun	16:05:08	593	26.6	27.7	1.1	29	16.71
11-14-jun	17:05:08	593	26.1	27.1	1.0	28	16.71
11-14-jun	18:05:08	593	25.9	26.6	0.7	28	16.71
11-14-jun	19:05:08	593	24.7	25.4	0.7	28	16.70
11-14-jun	20:05:08	593	20.8	21.9	1.1	28	16.71
11-14-jun	21:05:08	593	15.3	15.6	0.3	27	16.71
11-14-jun	22:05:08	593	13.1	12.2	-0.9	27	16.71
11-14-jun	23:05:08	593	12.0	10.8	-1.2	27	16.72

BGI PQ200 Air Sampling System

Downloaded 2011 21 jun 10:39:30

Job Details:

Job Name: 11Jun21B.JOB

Version: 5.62

Serial No: 963

Pump Time: 569:19

Flags:

Job Code:

Site Name:

Station Code:

Operators: jksr/kn

User1:

User2:

	Max	Min	Avg	Units
BP	592	586	589	mmHg
TA	24.4	2.6	14.1	°C
Q	---	---	16.7	Lpm

QCV 0.51 %

 Max overheat 2.6 °C
 occurred 20-jun 15:42:07

Timer Information:

Date dd-mmm	Time hh:mm:ss
Start: 11-20-jun	0:00:08
Stop: 11-21-jun	0:00:04

ET: 23:59

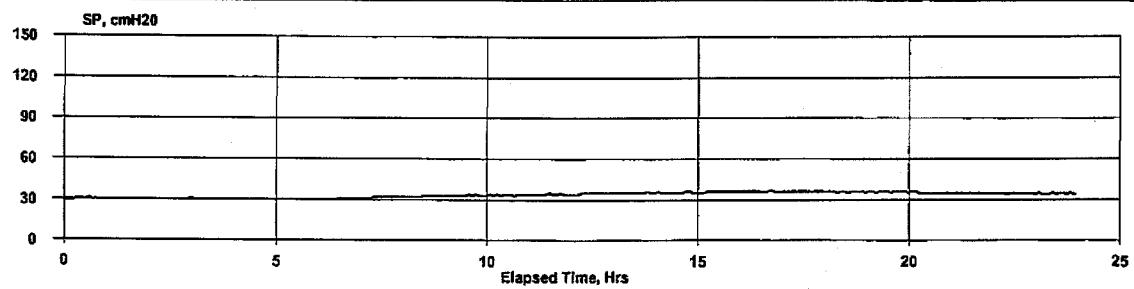
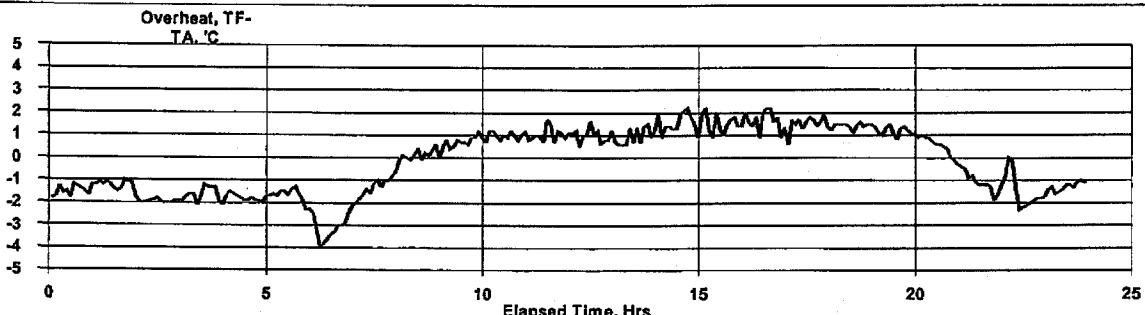
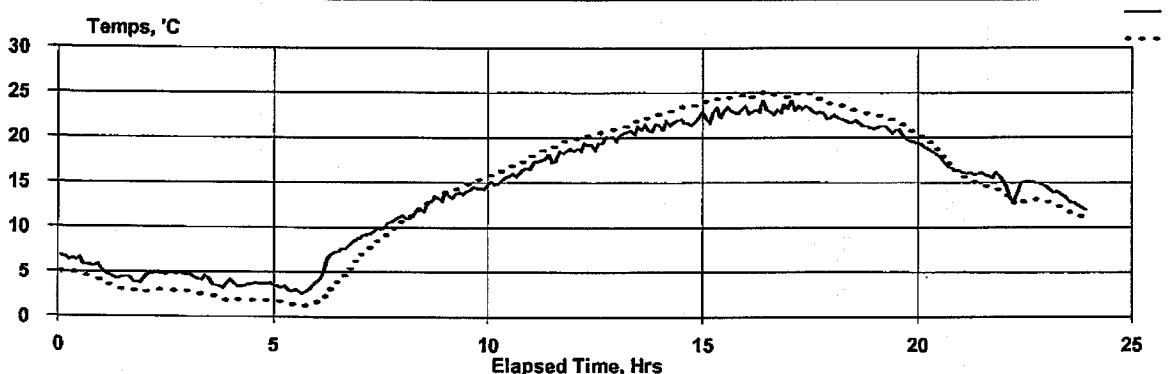
Mass Concentration Data:

Filter ID:	
Final Wt:	mg
Initial Wt:	mg
Delta Wt:	0.000 mg
Total Vol:	24.037 m^3

Mass Conc: 0 µg/m³

Notes 1:

Notes 2:



Hourly

11-20-jun	0:05:08	589	6.1	4.6	-1.5	30	16.71
11-20-jun	1:05:08	589	4.3	3.1	-1.3	30	16.71
11-20-jun	2:05:08	589	4.8	2.9	-2.0	30	16.70
11-20-jun	3:05:08	588	4.0	2.3	-1.7	30	16.71
11-20-jun	4:05:08	589	3.6	1.8	-1.8	30	16.72
11-20-jun	5:05:08	589	3.2	1.4	-1.7	30	16.72
11-20-jun	6:05:08	589	7.2	4.1	-3.1	31	16.72
11-20-jun	7:05:08	589	10.1	8.8	-1.3	32	16.71
11-20-jun	8:05:08	590	12.3	12.5	0.1	33	16.70
11-20-jun	9:05:08	590	14.1	14.8	0.7	33	16.71
11-20-jun	10:05:08	590	15.7	16.7	1.0	34	16.71
11-20-jun	11:05:08	590	18.0	19.0	1.1	34	16.71
11-20-jun	12:05:08	590	19.4	20.4	1.0	35	16.71
11-20-jun	13:05:08	590	20.9	21.8	1.0	35	16.70
11-20-jun	14:05:08	590	21.8	23.3	1.6	35	16.70
11-20-jun	15:05:08	590	22.8	24.3	1.5	36	16.70
11-20-jun	16:05:08	590	23.1	24.7	1.6	36	16.71
11-20-jun	17:05:08	590	23.0	24.5	1.5	36	16.71
11-20-jun	18:05:08	590	21.7	23.1	1.4	36	16.70
11-20-jun	19:05:08	590	20.5	21.6	1.2	36	16.71
11-20-jun	20:05:08	590	17.7	18.2	0.5	35	16.71
11-20-jun	21:05:08	591	15.9	14.8	-1.1	35	16.71
11-20-jun	22:05:08	591	14.5	13.0	-1.5	35	16.71
11-20-jun	23:05:08	591	13.2	11.9	-1.3	34	16.71

BGI PQ200 Air Sampling System

Downloaded 2011 27 jun 09:30:28

Job Details:

Job Name: 11Jun27B.JOB
 Version: 5.62
 Serial No: 963
 Pump Time: 593:18
 Flags:

Job Code: 963B
 Site Name:
 Station Code:
 Operators:
 User1:
 User2:

	Max	Min	Avg	Units
BP	591	588	590	mmHg
TA	28.8	6.2	18.1	°C
Q	---	---	16.7	Lpm

QCV 0.51 %
 Max overheat 2.1 °C
 occurred 26-jun 20:57:22

Timer Information:

Date dd-mmm Start: 11-26-jun Time: 0:00:08
 Stop: 11-27-jun 0:00:05
 ET: 23:59

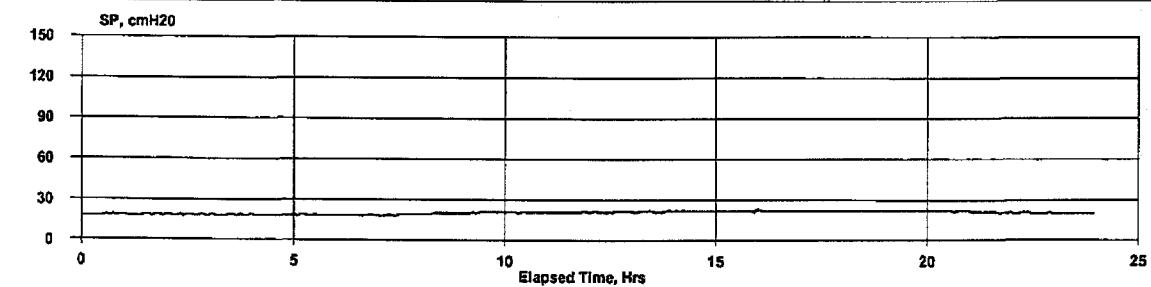
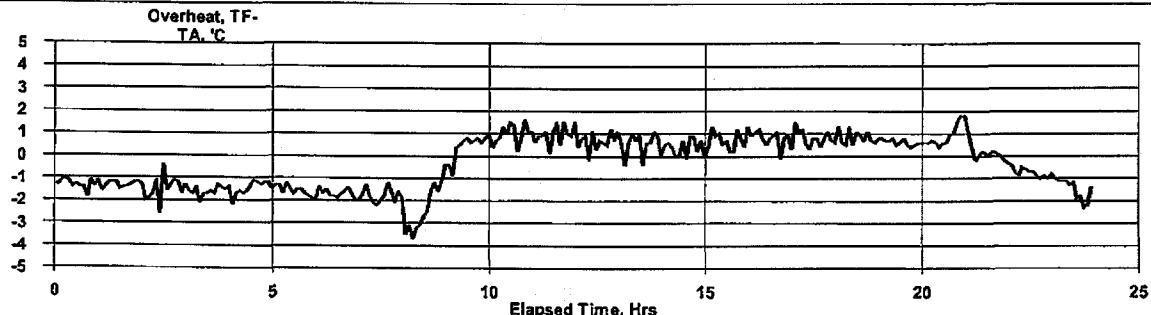
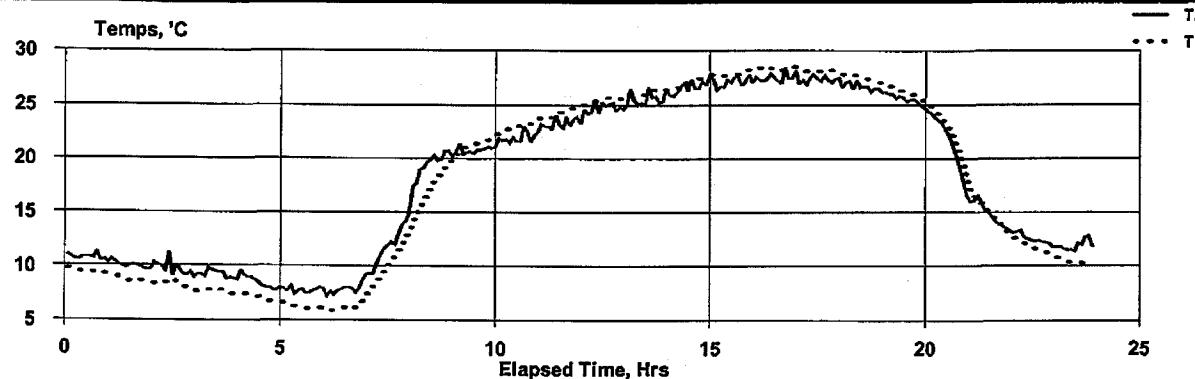
Mass Concentration Data:

Filter ID:	10
Final Wt:	mg
Initial Wt:	mg
Delta Wt:	0.000 mg
Total Vol:	24.037 m^3

Mass Conc: 0 µg/m³

Notes 1:

Notes 2:



Hourly

11-26-jun	0:05:08	590	10.7	9.4	-1.3	18	16.71
11-26-jun	1:05:08	590	10.0	8.7	-1.3	18	16.71
11-26-jun	2:05:08	590	9.7	8.2	-1.5	18	16.71
11-26-jun	3:05:08	590	9.2	7.6	-1.6	18	16.71
11-26-jun	4:05:08	590	8.4	7.0	-1.5	18	16.71
11-26-jun	5:05:08	590	7.8	6.2	-1.6	18	16.71
11-26-jun	6:05:08	590	7.9	6.2	-1.7	18	16.71
11-26-jun	7:05:08	590	12.0	10.2	-1.8	19	16.71
11-26-jun	8:05:08	591	19.5	17.2	-2.3	20	16.72
11-26-jun	9:05:08	591	20.8	21.3	0.5	21	16.71
11-26-jun	10:05:08	591	22.0	23.0	1.0	21	16.70
11-26-jun	11:05:08	591	23.3	24.3	1.0	21	16.70
11-26-jun	12:05:08	591	24.8	25.4	0.7	22	16.70
11-26-jun	13:05:08	591	25.6	26.1	0.5	22	16.70
11-26-jun	14:05:08	591	26.7	27.1	0.4	22	16.71
11-26-jun	15:05:08	590	27.1	27.9	0.7	22	16.70
11-26-jun	16:05:08	590	27.6	28.3	0.8	22	16.71
11-26-jun	17:05:08	590	27.3	28.2	0.8	22	16.71
11-26-jun	18:05:08	590	26.7	27.5	0.8	22	16.71
11-26-jun	19:05:08	590	25.5	26.2	0.6	22	16.71
11-26-jun	20:05:08	591	21.6	22.5	0.9	22	16.72
11-26-jun	21:05:08	591	14.8	14.9	0.1	21	16.72
11-26-jun	22:05:08	591	12.5	11.8	-0.8	20	16.71
11-26-jun	23:05:08	591	11.9	10.4	-1.5	20	16.71

Collocated Monitor 964C

PM₁₀ Sampler Summary

April 1, 2011 - June 30, 2011

Network: Alton Coal Development, LLC
Site: Coal Hollow Mine
Sampler ID: 964C
Sampler Type: BGI FRM Single
AQS:

Date	Filter ID	Concentration (LTP) (µg/m³)	Concentration (STP) (µg/m³)	Sample Period (hr:min)	Sample Volume (m³)	Std Volume (m³)	Mass (mg)	Flag	Comments
04/03/11	P0072339	Invalid - AV	15:18	15.3	12.5	148.816	148.911	0.095	SP Low battery shutdown-T
04/09/11	P0072343	2.2	2.7	23:58	24.0	20.3	144.080	144.134	0.054
04/15/11	P0072920	33.0	39.6	23:59	24.0	20.0	148.669	149.462	0.793
04/21/11	P0072923	48.4	59.3	24:00	24.0	19.6	148.459	149.623	1.164
04/27/11	P0073526	22.3	26.6	23:59	24.0	20.1	143.190	143.725	0.535
05/03/11	P0073529	56.6	68.5	23:59	24.0	19.9	141.899	143.260	1.361
05/09/11	P0073600	3.8	4.6	23:59	24.0	19.9	146.972	147.063	0.091
05/15/11	P0198553	17.9	22.3	23:59	24.0	19.3	146.163	146.594	0.431
05/21/11	P0198557	5.3	6.5	23:59	24.0	19.7	146.937	147.065	0.128
05/24/11	P0198692	11.4	13.9	23:59	24.0	19.7	142.607	142.880	0.273
05/27/11		Invalid - AF	Invalid - AF						
06/02/11	P0198695	49.2	60.4	23:59	24.0	19.6	142.886	144.069	1.183
06/08/11	P0198836	40.0	49.5	23:59	24.0	19.4	138.808	139.769	0.961
06/14/11	P0198840	20.6	25.7	23:59	24.0	19.2	139.715	140.210	0.495
06/20/11	P0199752	14.4	17.9	23:59	24.0	19.3	140.270	140.616	0.346
06/26/11	P0199755	Invalid - AN	Invalid - AN				143.297	143.322	0.025
# Valid	Recovery	Average	St. Dev.	Max	Min				
13	81.3%	30.6	22.7	68.5	2.7				

BGI PQ200 Air Sampling System

Downloaded 2011 04 apr 14:49:36

Job Details:

Job Name: 11Apr04C.JOB

Version: 5.62

Serial No: 964

Pump Time: 198:25

Flags: T

Job Code:

Site Name: 964C

Station Code:

Operators: KN

User1:

User2:

	Max	Min	Avg	Units
BP	588	583	585	mmHg
TA	12.1	3.5	7.9	°C
Q	---	---	16.71	Lpm

QCV 0 %

Max overheated 3.2 °C
occurred 03-apr 17:01:28

Timer Information:

Date	Time
dd-mmm	hh:mm:ss
Start: 11-03-apr	0:00:00
Stop: 11-03-apr	23:59:13

ET: 15:18

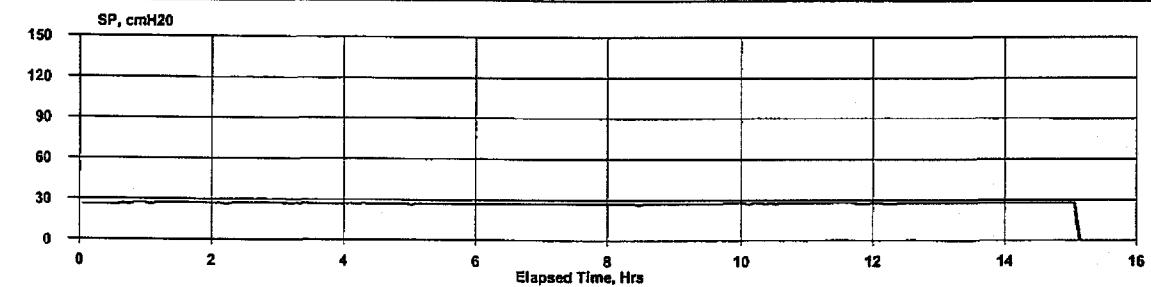
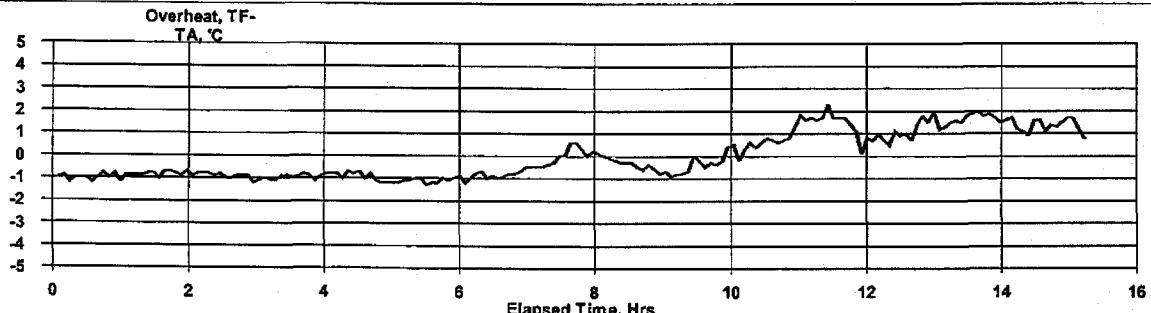
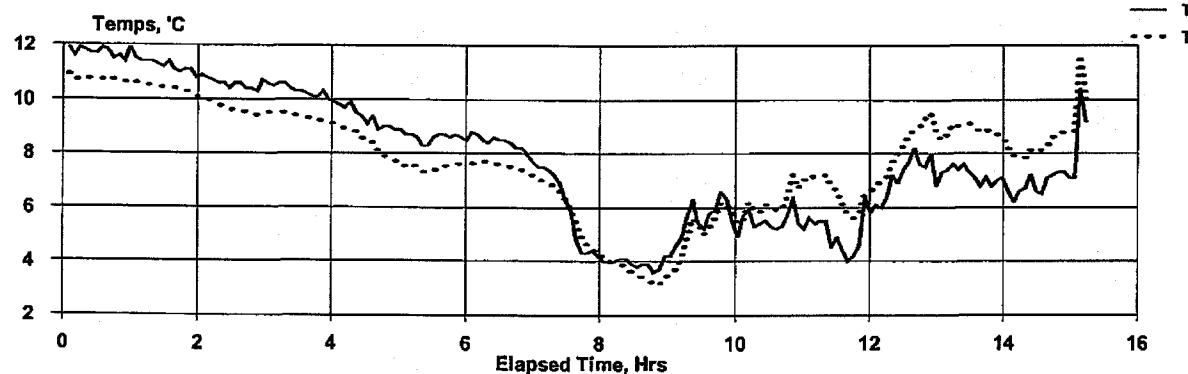
Mass Concentration Data:

Filter ID:	IML11
Final Wt:	mg
Initial Wt:	mg
Delta Wt:	0.000 mg
Total Vol:	15.332 m^3

Mass Conc: 0 $\mu\text{g}/\text{m}^3$

Notes 1:

Notes 2:



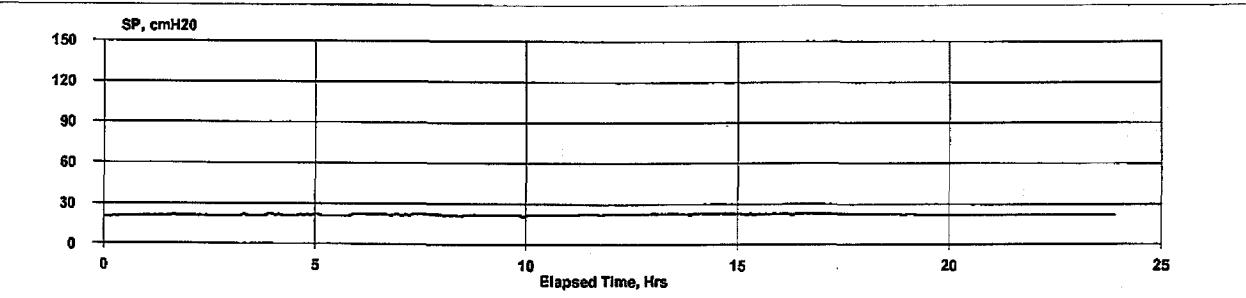
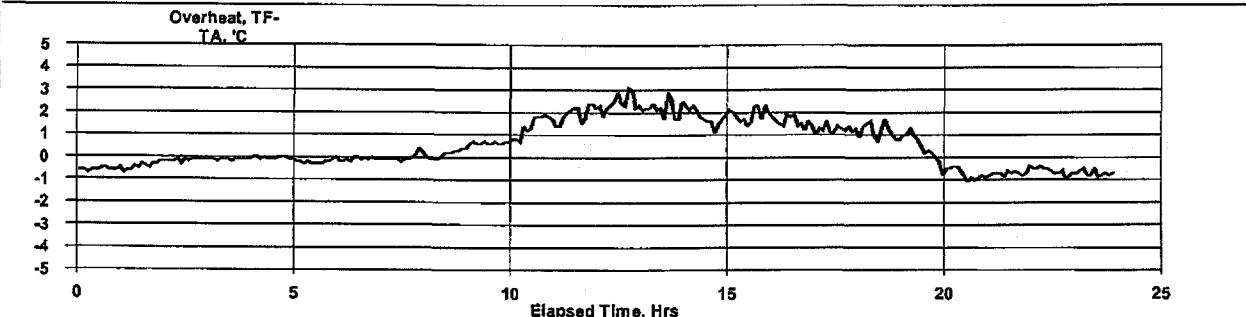
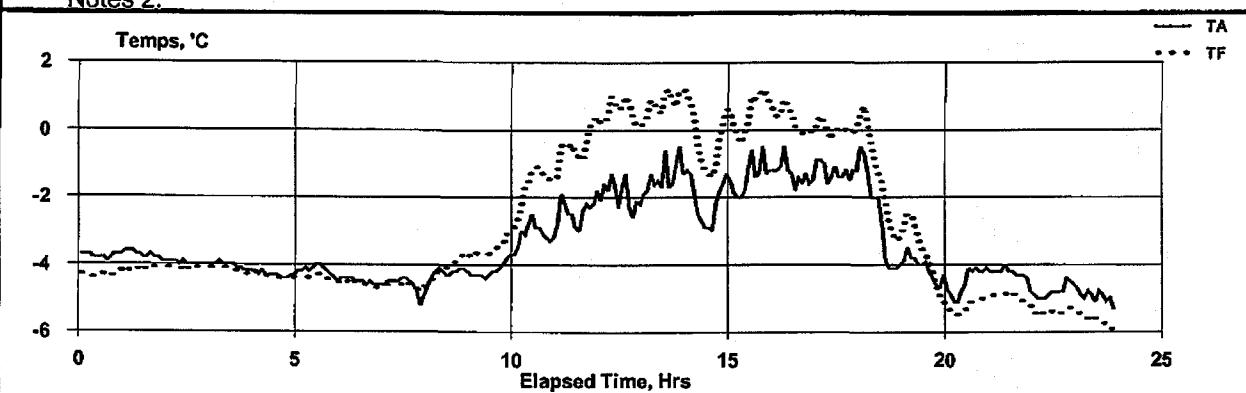
Hourly

11-03-apr	0:05:00	585	11.7	10.7	-1.0	26	16.71
11-03-apr	1:05:00	585	11.2	10.4	-0.8	27	16.71
11-03-apr	2:05:00	585	10.6	9.7	-0.9	27	16.70
11-03-apr	3:05:00	584	10.3	9.4	-1.0	27	16.72
11-03-apr	4:05:00	584	9.4	8.5	-0.9	27	16.72
11-03-apr	5:05:00	583	8.6	7.5	-1.1	27	16.72
11-03-apr	6:05:00	583	8.4	7.6	-0.9	27	16.72
11-03-apr	7:05:00	584	6.2	6.1	-0.1	27	16.72
11-03-apr	8:05:00	585	3.9	3.7	-0.3	27	16.72
11-03-apr	9:05:00	585	5.4	4.9	-0.5	27	16.72
11-03-apr	10:05:00	585	5.5	6.0	0.5	28	16.72
11-03-apr	11:05:00	586	4.9	6.6	1.6	28	16.71
11-03-apr	12:05:00	587	6.9	7.8	0.9	28	16.71
11-03-apr	13:05:00	587	7.3	8.9	1.7	28	16.71
11-03-apr	14:05:00	587	6.8	8.2	1.4	28	16.72
11-03-apr	15:05:00	590	8.2	9.6	1.4	17	10.03

BGI PQ200 Air Sampling System

Downloaded 2011 11 apr 10:02:11

Job Details:				Job Code: Site Name: 964C Station Code: Operators: KN User1: User2:	
Job Name: 11Apr11C.JOB Version: 5.62 Serial No: 964 Pump Time: 222:23 Flags:					
BP	Max 588	Min 579	Avg 582	mmHg	
TA	-0.2	-5.5	-3.3	°C	
Q	---	---	16.71	Lpm	
QCV	0.57 %				
Max overheat 3.5 °C occured 09-apr 12:43:01					
				Timer Information:	
				Date dd-mmm Start: 11-09-apr Stop: 11-09-apr	Time hh:mm:ss 0:00:08 23:59:05
				ET: 23:58	Mass Concentration Data:
				Filter ID: IML26	Final Wt: mg
				Initial Wt: mg	Delta Wt: 0.000 mg
				Total Vol: 24.024 m^3	Mass Conc: 0 ug/m3
Notes 1: Notes 2:					



Hourly

11-09-apr	0:05:08	581	-3.8	-4.3	-0.6	21	16.71
11-09-apr	1:05:08	581	-3.7	-4.2	-0.4	21	16.71
11-09-apr	2:05:08	580	-4.0	-4.1	-0.1	21	16.71
11-09-apr	3:05:08	580	-4.1	-4.2	-0.1	21	16.71
11-09-apr	4:05:08	580	-4.3	-4.4	0.0	21	16.71
11-09-apr	5:05:08	580	-4.2	-4.4	-0.2	21	16.71
11-09-apr	6:05:08	580	-4.5	-4.6	-0.1	22	16.71
11-09-apr	7:05:08	581	-4.6	-4.6	0.0	22	16.71
11-09-apr	8:05:08	581	-4.2	-4.1	0.1	22	16.71
11-09-apr	9:05:08	581	-4.2	-3.5	0.6	22	16.71
11-09-apr	10:05:08	582	-3.1	-1.7	1.4	22	16.71
11-09-apr	11:05:08	582	-2.4	-0.4	2.0	23	16.70
11-09-apr	12:05:08	583	-1.9	0.5	2.4	23	16.71
11-09-apr	13:05:08	583	-1.4	0.8	2.2	23	16.72
11-09-apr	14:05:08	583	-2.1	-0.3	1.8	23	16.72
11-09-apr	15:05:08	583	-1.4	0.5	1.9	23	16.72
11-09-apr	16:05:08	584	-1.3	0.3	1.6	23	16.72
11-09-apr	17:05:08	584	-1.2	0.0	1.3	23	16.71
11-09-apr	18:05:08	585	-2.6	-1.5	1.2	23	16.72
11-09-apr	19:05:08	585	-4.1	-3.7	0.4	22	16.72
11-09-apr	20:05:08	586	-4.5	-5.2	-0.7	22	16.71
11-09-apr	21:05:08	587	-4.3	-5.0	-0.7	22	16.73
11-09-apr	22:05:08	587	-4.8	-5.4	-0.6	22	16.71
11-09-apr	23:05:08	588	-5.0	-5.7	-0.7	22	16.70

BGI PQ200 Air Sampling System

Downloaded 2011 18 apr 10:04:19

Job Details:

Job Name: 11Apr18C.JOB

Version: 5.62

Serial No: 964

Pump Time: 246:22

Flags:

Job Code:

Site Name: 964C

Station Code:

Operators: kn

User1:

User2:

	Max	Min	Avg	Units
BP	595	592	593	mmHg
TA	15.5	-2.5	6.3	°C
Q	---	---	16.71	Lpm

QCV 0.57 %

 Max overheated 3.2 °C
 occurred 16-apr 16:06:25

Timer Information:

Date	Time
dd-mmm	hh:mm:ss
Start: 11-15-apr	0:00:08
Stop: 11-16-apr	0:00:05

ET: 23:59

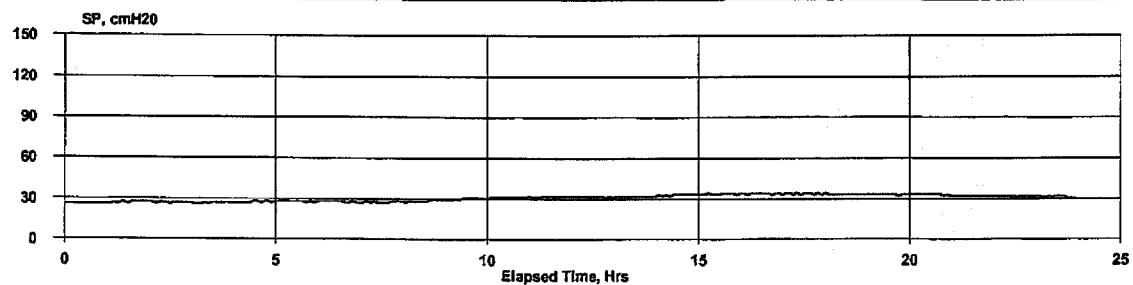
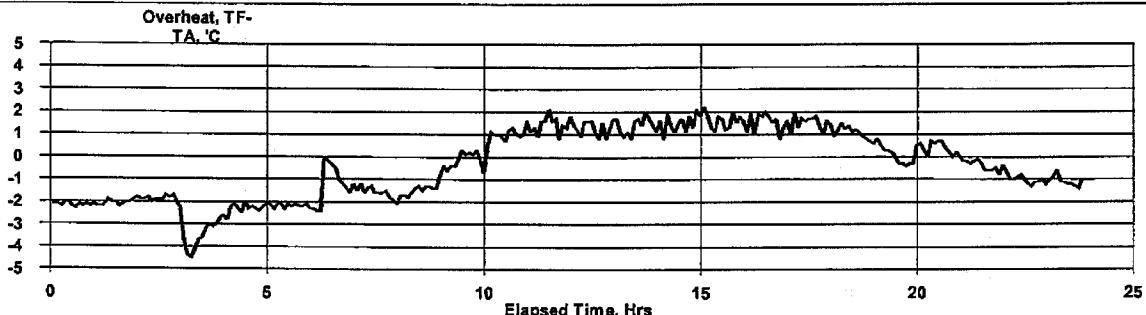
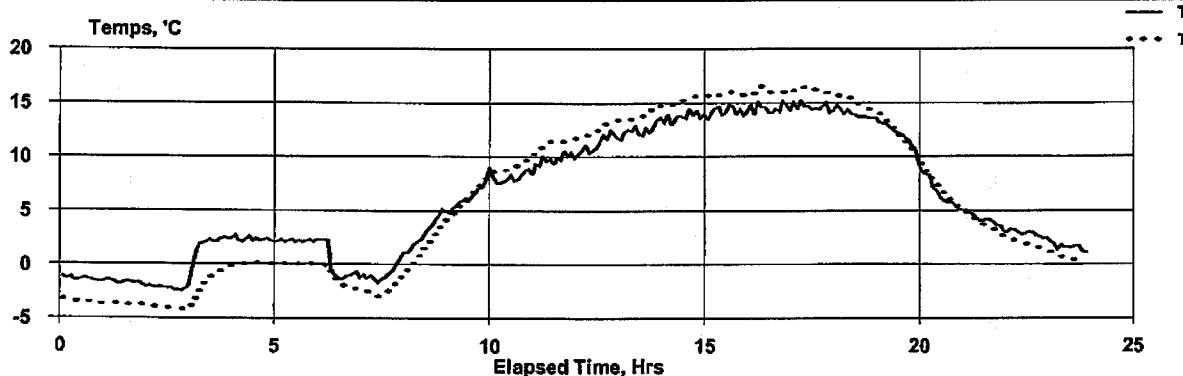
Mass Concentration Data:

Filter ID:	16
Final Wt:	mg
Initial Wt:	mg
Delta Wt:	0.000 mg
Total Vol:	24.041 m^3

Mass Conc: 0 µg/m³

Notes 1:

Notes 2:



Hourly

11-15-apr	0:05:08	594	-1.4	-3.6	-2.1	26	16.72
11-15-apr	1:05:08	594	-1.7	-3.8	-2.0	27	16.71
11-15-apr	2:05:08	594	-2.2	-4.1	-1.9	27	16.72
11-15-apr	3:05:08	594	1.9	-1.5	-3.5	27	16.71
11-15-apr	4:05:08	594	2.3	0.0	-2.3	27	16.71
11-15-apr	5:05:08	594	2.2	0.0	-2.2	28	16.71
11-15-apr	6:05:08	594	-0.2	-1.4	-1.2	28	16.72
11-15-apr	7:05:08	594	-0.8	-2.3	-1.6	28	16.71
11-15-apr	8:05:08	594	3.1	1.7	-1.4	28	16.71
11-15-apr	9:05:08	594	6.5	6.3	-0.1	30	16.71
11-15-apr	10:05:08	595	8.1	9.1	1.0	31	16.71
11-15-apr	11:05:08	595	9.8	11.3	1.4	32	16.70
11-15-apr	12:05:08	594	11.3	12.5	1.3	32	16.71
11-15-apr	13:05:08	594	12.5	13.9	1.4	32	16.71
11-15-apr	14:05:08	593	13.7	15.2	1.5	33	16.71
11-15-apr	15:05:08	593	14.2	15.8	1.6	34	16.72
11-15-apr	16:05:08	592	14.5	16.0	1.5	34	16.71
11-15-apr	17:05:08	592	14.6	16.1	1.5	34	16.71
11-15-apr	18:05:08	592	14.0	15.0	1.1	33	16.71
11-15-apr	19:05:08	592	11.9	12.0	0.1	33	16.71
11-15-apr	20:05:08	592	6.6	7.0	0.4	33	16.71
11-15-apr	21:05:08	592	4.1	3.7	-0.4	32	16.71
11-15-apr	22:05:08	593	2.9	1.9	-1.0	32	16.71
11-15-apr	23:05:08	592	1.6	0.5	-1.1	31	16.71

BGI PQ200 Air Sampling System

Downloaded 2011 22 apr 10:55:07

Job Details:

Job Name: 11Apr22C.JOB

Version: 5.62

Serial No: 964

Pump Time: 270:22

Flags:

Job Code: 964C

Site Name:

Station Code:

Operators: kn

User1:

User2:

	Max	Min	Avg	Units
BP	589	585	587	mmHg
TA	16.6	1.8	8.9	°C
Q	---	---	16.71	Lpm

QCV 0.57 %

 Max overheat 2.2 °C
 occurred 21-apr 01:23:13

Timer Information:

 Date dd-mmm Time hh:mm:ss
 Start: 11-21-apr 0:00:08
 Stop: 11-22-apr 0:00:05

ET: 24:00:00

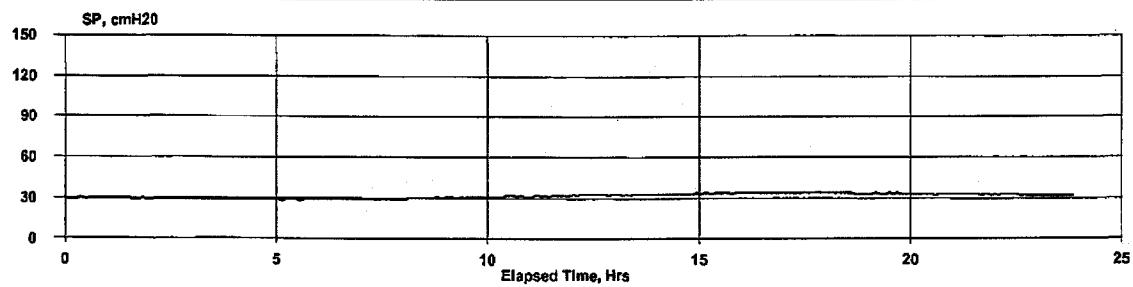
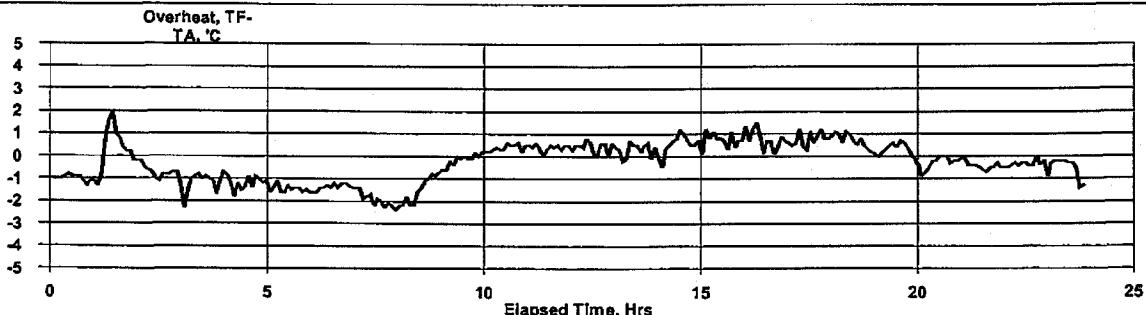
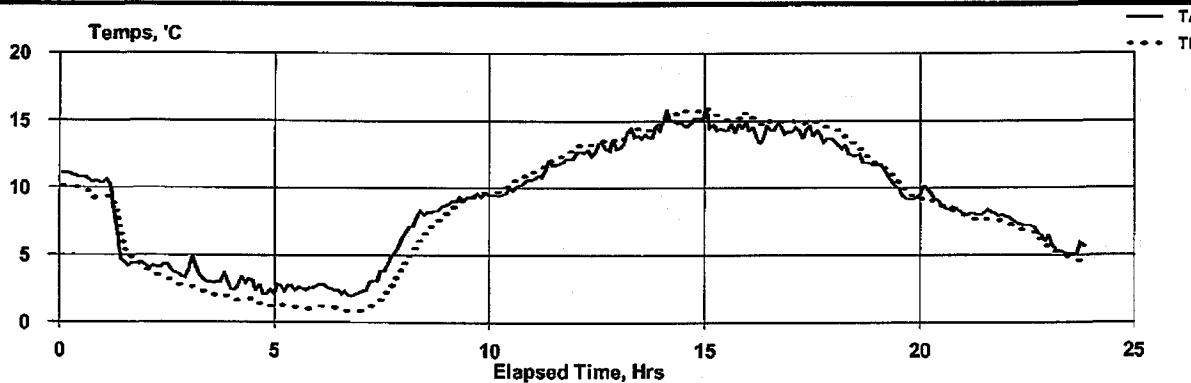
Mass Concentration Data:

 Filter ID: 19
 Final Wt: mg
 Initial Wt: mg
 Delta Wt: 0.000 mg
 Total Vol: 24.041 m^3

Mass Conc: 0 µg/m³

Notes 1:

Notes 2:



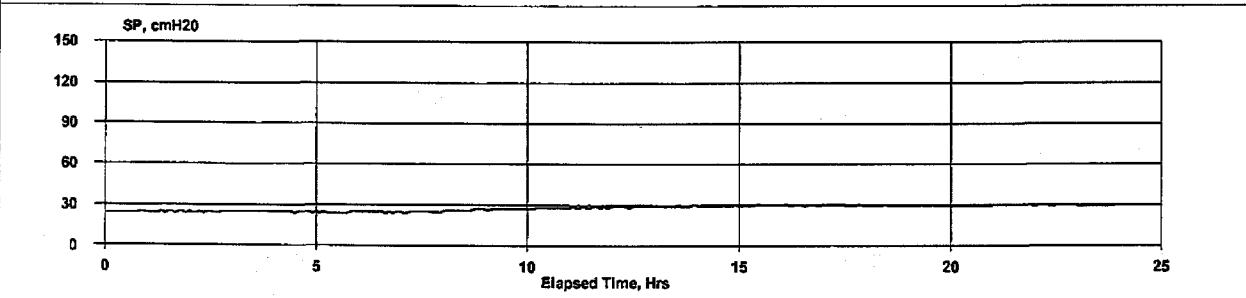
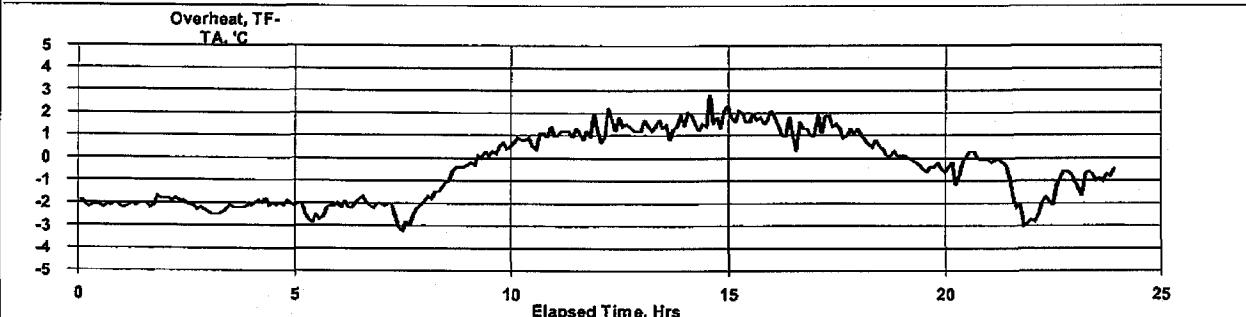
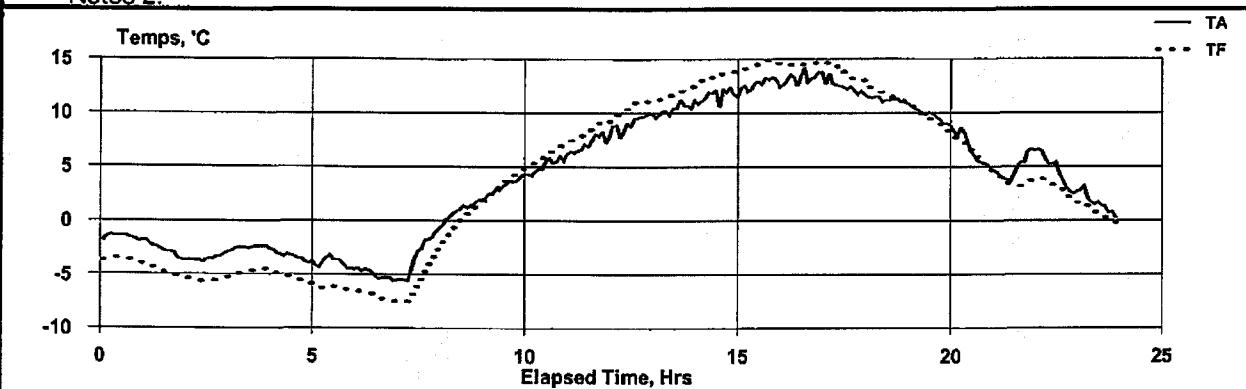
Hourly

11-21-apr	0:05:00	588	10.7	9.7	-1.0	30	16.70
11-21-apr	1:05:00	589	5.9	6.2	0.4	30	16.72
11-21-apr	2:05:00	588	3.9	3.1	-0.8	29	16.71
11-21-apr	3:05:00	588	3.3	2.1	-1.2	29	16.71
11-21-apr	4:05:00	588	2.6	1.4	-1.2	29	16.71
11-21-apr	5:05:00	588	2.6	1.1	-1.5	29	16.70
11-21-apr	6:05:00	588	2.4	1.0	-1.4	29	16.71
11-21-apr	7:05:00	588	4.0	2.1	-1.9	29	16.72
11-21-apr	8:05:00	587	7.9	6.4	-1.5	30	16.71
11-21-apr	9:05:00	587	9.3	9.1	-0.1	31	16.71
11-21-apr	10:05:00	587	9.9	10.3	0.4	31	16.71
11-21-apr	11:05:00	587	11.6	12.0	0.4	32	16.71
11-21-apr	12:05:00	587	12.9	13.3	0.4	33	16.71
11-21-apr	13:05:00	586	13.9	14.2	0.3	33	16.72
11-21-apr	14:05:00	586	15.0	15.5	0.5	33	16.72
11-21-apr	15:05:00	586	14.6	15.3	0.7	34	16.72
11-21-apr	16:05:00	586	14.2	15.0	0.8	34	16.71
11-21-apr	17:05:00	587	14.0	14.8	0.7	34	16.72
11-21-apr	18:05:00	587	12.5	13.2	0.7	34	16.71
11-21-apr	19:05:00	587	10.2	10.5	0.3	33	16.71
11-21-apr	20:05:00	588	9.0	8.7	-0.3	33	16.71
11-21-apr	21:05:00	588	8.1	7.7	-0.4	33	16.71
11-21-apr	22:05:00	588	7.2	6.8	-0.3	33	16.71
11-21-apr	23:05:00	588	5.4	4.9	-0.6	32	16.71

BGI PQ200 Air Sampling System

Downloaded 2011_29 apr 12:00:44

Job Details:			
Job Name:	11Apr29C.JOB	Job Code:	
Version:	5.62	Site Name:	964c
Serial No:	964	Station Code:	
Pump Time:	294:21	Operators:	kn
Flags:		User1:	
BP	Max 594	Min 588	Avg 591 mmHg
TA	14.5	-5.7	4.1 °C
Q	---	---	16.71 Lpm
QCV	0.53 %	Timer Information:	
Max overheat occured	2.9 °C 27-apr 14:34:21	Date dd-mmm	Time hh:mm:ss
Notes 1:	Start: 11-27-apr	0:00:08	
Notes 2:	Stop: 11-28-apr	0:00:05	
ET: 23:59			
Mass Concentration Data:			
Filter ID:	5	Final Wt:	mg
Initial Wt:		mg	
Delta Wt:	0.000	mg	
Total Vol:	24.041	m^3	
Mass Conc:	0	µg/m3	



Hourly

11-27-apr	0:05:08	590	-1.6	-3.7	-2.1	24	16.69
11-27-apr	1:05:08	591	-2.8	-4.8	-2.0	25	16.71
11-27-apr	2:05:08	590	-3.5	-5.5	-2.1	25	16.71
11-27-apr	3:05:08	590	-2.5	-4.8	-2.3	25	16.72
11-27-apr	4:05:08	591	-3.4	-5.4	-2.0	25	16.72
11-27-apr	5:05:08	591	-3.9	-6.3	-2.4	24	16.72
11-27-apr	6:05:08	591	-5.1	-7.1	-2.0	25	16.72
11-27-apr	7:05:08	592	-3.1	-5.5	-2.5	25	16.71
11-27-apr	8:05:08	592	1.0	0.0	-1.0	26	16.71
11-27-apr	9:05:08	592	3.2	3.5	0.2	27	16.71
11-27-apr	10:05:08	592	5.2	6.1	0.9	28	16.71
11-27-apr	11:05:08	592	7.2	8.4	1.2	29	16.71
11-27-apr	12:05:08	592	9.1	10.5	1.4	29	16.71
11-27-apr	13:05:08	592	10.4	11.8	1.4	29	16.71
11-27-apr	14:05:08	592	11.6	13.4	1.8	29	16.71
11-27-apr	15:05:08	591	12.7	14.5	1.8	30	16.71
11-27-apr	16:05:08	591	13.3	14.5	1.2	30	16.71
11-27-apr	17:05:08	592	12.4	13.8	1.4	30	16.72
11-27-apr	18:05:08	592	11.2	11.7	0.4	29	16.71
11-27-apr	19:05:08	592	9.7	9.4	-0.3	29	16.71
11-27-apr	20:05:08	592	6.5	6.3	-0.2	29	16.71
11-27-apr	21:05:08	593	5.0	3.6	-1.4	30	16.71
11-27-apr	22:05:08	593	4.5	3.0	-1.5	30	16.71
11-27-apr	23:05:08	593	1.6	0.7	-0.9	29	16.71

BGI PQ200 Air Sampling System

Downloaded 2011 04 may 10:30:34

Job Details:				Job Code: Site Name: 964C Station Code: Operators: KN User1: User2:
Job Name: 11May04C.JOB Version: 5.62 Serial No: 964 Pump Time: 318:20 Flags:				
BP	Max 596	Min 592	Avg 594	mmHg
TA	18.9	-2.3	8.5	°C
Q	---	---	16.71	Lpm
QCV 0.62 %				Timer Information:
Max overheat 2.2 °C occurred 03-may 12:08:57				Date dd-mmm Start: 11-03-may Time: 0:00:08
				Stop: 11-04-may ET: 23:59
				Mass Concentration Data: Filter ID: 8 Final Wt: mg Initial Wt: mg Delta Wt: 0.000 mg Total Vol: 24.038 m³ Mass Conc: 0 µg/m³
Notes 1: Notes 2:				
<p>Temps, °C</p> <p>Elapsed Time, Hrs</p> <p>Legend: TA (solid line), TF (dotted line)</p> <p>The graph shows two temperature series: TA (solid line) and TF (dotted line). Both series start near 0°C. TA remains relatively flat until about 7 hours, then rises sharply to a peak of approximately 17°C around 15 hours. TF follows a similar path but stays slightly below TA after the initial rise. Both series then drop sharply from 15 to 22 hours, returning to near baseline levels by 25 hours.</p>				
<p>Overheat, TF-TA, °C</p> <p>Elapsed Time, Hrs</p> <p>The graph shows the difference between TF and TA temperatures, ranging from -5 to 5 °C. The difference is near zero until about 7 hours, then rises to a peak of approximately 2 °C around 15 hours, before dropping back towards zero by 25 hours.</p>				
<p>SP, cmH2O</p> <p>Elapsed Time, Hrs</p> <p>The graph shows static pressure (SP) in cmH2O, ranging from 0 to 150. The pressure is relatively stable around 30 cmH2O until about 7 hours, then shows minor fluctuations until 25 hours.</p>				

Hourly

11-03-may	0:05:08	596	-0.3	-2.0	-1.7	30	16.71
11-03-may	1:05:08	596	0.1	-2.0	-2.0	30	16.70
11-03-may	2:05:08	596	-1.0	-2.6	-1.7	30	16.71
11-03-may	3:05:08	595	-0.8	-2.9	-2.2	30	16.72
11-03-may	4:05:08	595	-1.2	-3.2	-2.0	30	16.72
11-03-may	5:05:08	595	-1.1	-3.2	-2.1	30	16.71
11-03-may	6:05:08	595	-0.7	-2.8	-2.1	30	16.71
11-03-may	7:05:08	595	1.4	-0.9	-2.3	30	16.73
11-03-may	8:05:08	596	8.0	5.4	-2.6	31	16.69
11-03-may	9:05:08	596	11.0	11.0	0.0	33	16.74
11-03-may	10:05:08	595	12.5	13.4	0.8	34	16.70
11-03-may	11:05:08	595	14.1	15.3	1.1	34	16.71
11-03-may	12:05:08	595	15.3	16.3	1.0	34	16.71
11-03-may	13:05:08	594	16.4	17.1	0.7	35	16.71
11-03-may	14:05:08	594	16.9	17.9	1.0	35	16.72
11-03-may	15:05:08	593	17.4	18.5	1.2	35	16.72
11-03-may	16:05:08	593	17.5	18.6	1.1	35	16.71
11-03-may	17:05:08	593	17.8	18.6	0.9	35	16.71
11-03-may	18:05:08	592	17.0	17.6	0.5	35	16.71
11-03-may	19:05:08	592	15.3	15.3	-0.1	35	16.71
11-03-may	20:05:08	592	10.6	10.8	0.2	34	16.71
11-03-may	21:05:08	593	6.7	6.4	-0.3	34	16.71
11-03-may	22:05:08	593	5.7	4.6	-1.2	34	16.72
11-03-may	23:05:08	593	4.7	3.4	-1.3	34	16.71

BGI PQ200 Air Sampling System

Downloaded 2011 10 may 10:03:27

Job Details:

Job Name: 11May10C.JOB

Version: 5.62

Serial No: 964

Pump Time: 342:19

Flags:

Job Code:

Site Name: 963C

Station Code:

Operators: kn

User1:

User2:

	Max	Min	Avg	Units
BP	585	580	582	mmHg
TA	7.2	-0.1	2.5	°C
Q	---	---	16.71	Lpm

QCV 0.53 %

 Max overheat 2 °C
 occurred 09-may 17:50:43

Timer Information:

Date dd-mmm	Time hh:mm:ss
Start: 11-09-may	0:00:08
Stop: 11-10-may	0:00:05

ET: 23:59

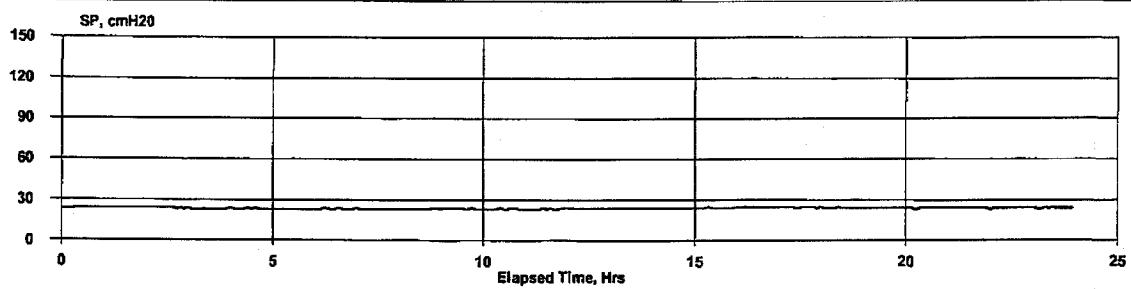
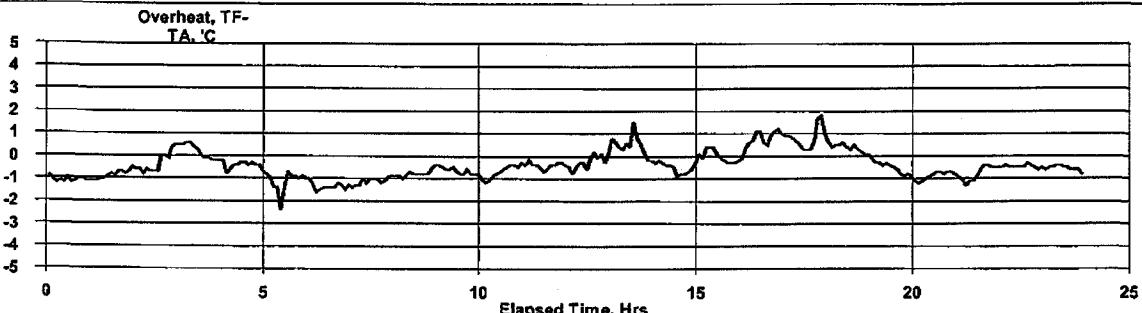
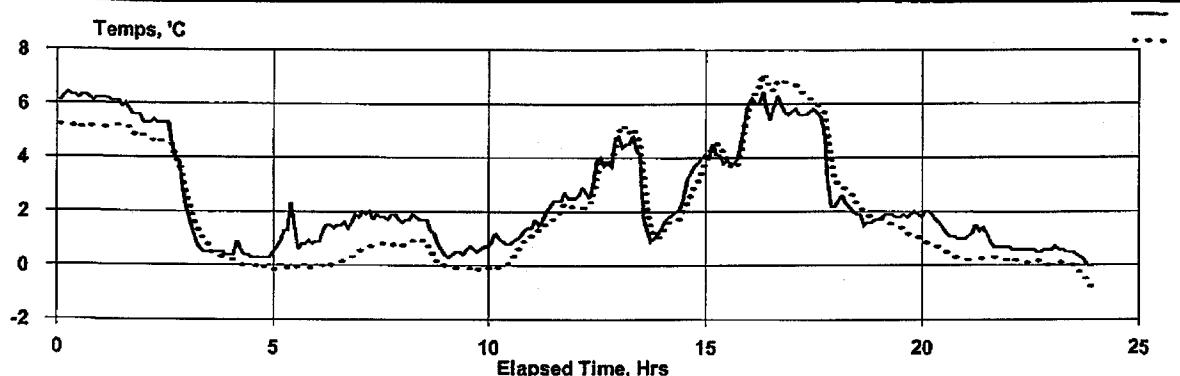
Mass Concentration Data:

Filter ID:	11
Final Wt:	mg
Initial Wt:	mg
Delta Wt:	0.000 mg
Total Vol:	24.04 m^3

Mass Conc: 0 µg/m³

Notes 1:

Notes 2:



Hourly

11-09-may	0:05:08	581	6.2	5.2	-1.1	24	16.71
11-09-may	1:05:08	581	5.9	5.0	-0.9	24	16.71
11-09-may	2:05:08	581	4.6	4.2	-0.3	24	16.71
11-09-may	3:05:08	581	0.7	0.8	0.2	23	16.69
11-09-may	4:05:08	581	0.4	0.0	-0.4	23	16.71
11-09-may	5:05:08	581	1.1	-0.1	-1.2	23	16.71
11-09-may	6:05:08	581	1.5	0.1	-1.4	23	16.71
11-09-may	7:05:08	581	1.8	0.7	-1.1	23	16.71
11-09-may	8:05:08	581	1.4	0.6	-0.8	23	16.72
11-09-may	9:05:08	581	0.5	-0.1	-0.7	24	16.71
11-09-may	10:05:08	582	1.1	0.4	-0.7	23	16.71
11-09-may	11:05:08	582	2.2	1.8	-0.4	23	16.71
11-09-may	12:05:08	582	3.5	3.3	-0.3	24	16.72
11-09-may	13:05:08	583	2.9	3.3	0.5	24	16.70
11-09-may	14:05:08	583	2.9	2.3	-0.5	24	16.71
11-09-may	15:05:08	583	4.3	4.3	0.0	24	16.70
11-09-may	16:05:08	582	5.9	6.7	0.8	25	16.71
11-09-may	17:05:08	582	4.8	5.7	0.8	25	16.72
11-09-may	18:05:08	583	2.0	2.3	0.4	24	16.71
11-09-may	19:05:08	583	1.9	1.3	-0.5	24	16.72
11-09-may	20:05:08	583	1.4	0.5	-0.9	24	16.71
11-09-may	21:05:08	584	1.0	0.2	-0.8	24	16.71
11-09-may	22:05:08	584	0.6	0.1	-0.5	24	16.73
11-09-may	23:05:08	584	0.4	-0.2	-0.5	24	16.71

BGI PQ200 Air Sampling System

Downloaded 2011 16 may 10:31:59

Job Details:				Job Code: Site Name: 964C Station Code: Operators: KN User1: User2:	
Job Name: 11May16C.JOB Version: 5.62 Serial No: 964 Pump Time: 366:18 Flags:					
BP	Max 588	Min 585	Avg 586	Units mmHg	
TA	19.8	5	12.5	°C	
Q	---	---	16.71	Lpm	
				Timer Information:	
				Date dd-mmm Start: 11-15-may Stop: 11-16-may	Time hh:mm:ss 0:00:08
				ET: 23:59	Mass Conc: 0 µg/m ³
				Mass Concentration Data:	
				Filter ID: 14	
				Final Wt:	mg
				Initial Wt:	mg
				Delta Wt:	0.000 mg
				Total Vol:	24.04 m ³
QCV 0.54 %					
Max overheat 1.4 °C occured 15-may 15:47:11					
Notes 1:					
Notes 2:					
<p>Temps, °C</p> <p>TA</p> <p>TF</p> <p>Elapsed Time, Hrs</p>					
<p>Overheat, TF - TA, °C</p> <p>Elapsed Time, Hrs</p>					
<p>SP, cmH2O</p> <p>Elapsed Time, Hrs</p>					

Hourly

11-15-may	0:05:08	587	8.3	6.8	-1.6	31	16.71
11-15-may	1:05:08	587	6.2	5.0	-1.2	31	16.72
11-15-may	2:05:08	587	6.3	4.5	-1.7	31	16.71
11-15-may	3:05:08	587	7.1	4.8	-2.4	31	16.71
11-15-may	4:05:08	587	8.1	5.7	-2.4	31	16.71
11-15-may	5:05:08	587	7.2	5.1	-2.1	31	16.71
11-15-may	6:05:08	587	7.6	5.8	-1.8	31	16.71
11-15-may	7:05:08	587	9.2	8.0	-1.2	32	16.71
11-15-may	8:05:08	587	11.3	11.0	-0.3	32	16.72
11-15-may	9:05:08	588	12.6	12.8	0.2	32	16.71
11-15-may	10:05:08	588	14.0	14.2	0.3	33	16.71
11-15-may	11:05:08	588	15.4	15.6	0.2	33	16.70
11-15-may	12:05:08	588	16.7	16.7	0.0	33	16.70
11-15-may	13:05:08	587	17.9	17.9	-0.1	34	16.71
11-15-may	14:05:08	587	18.6	18.7	0.1	34	16.72
11-15-may	15:05:08	586	18.7	19.2	0.4	34	16.72
11-15-may	16:05:08	586	18.7	19.1	0.4	34	16.72
11-15-may	17:05:08	586	18.1	18.5	0.5	34	16.71
11-15-may	18:05:08	586	17.0	17.1	0.2	34	16.71
11-15-may	19:05:08	586	15.5	15.4	0.0	34	16.69
11-15-may	20:05:08	586	13.0	12.3	-0.7	33	16.71
11-15-may	21:05:08	587	11.0	9.6	-1.3	33	16.70
11-15-may	22:05:08	587	10.2	8.9	-1.3	33	16.71
11-15-may	23:05:08	587	9.0	7.8	-1.2	33	16.72

BGI PQ200 Air Sampling System

Downloaded 2011 23 may 11:15:16

Job Details:			
Job Name: 11May23C.JOB Version: 5.62 Serial No: 964 Pump Time: 390:17 Flags:		Job Code: Site Name: N964C Station Code: Operators: JKSR User1: User2:	
BP	Max 591	Min 589	Avg 590 mmHg
TA	18.1	-1.1	9.6 °C
Q	--	--	16.71 Lpm
QCV	0.56 %		
Max overheat 4 °C occurred 22-may 16:49:28		ET:	23:59
Timer Information: Date dd-mmm Start: 11-21-may Stop: 11-22-may Time hh:mm:ss 0:00:08 0:00:04			
Mass Concentration Data: Filter ID: 8 Final Wt: mg Initial Wt: mg Delta Wt: 0.000 mg Total Vol: 24.042 m³ Mass Conc: 0 µg/m³			
Notes 1: Notes 2:			

Hourly

11-21-may	0:05:08	591	2.5	0.5	-2.0	33	16.71
11-21-may	1:05:08	591	2.1	0.1	-2.1	33	16.71
11-21-may	2:05:08	591	1.6	-0.1	-1.7	33	16.71
11-21-may	3:05:08	591	1.5	-0.4	-1.9	33	16.70
11-21-may	4:05:08	591	0.7	-0.7	-1.4	34	16.72
11-21-may	5:05:08	591	-0.6	-1.9	-1.3	34	16.72
11-21-may	6:05:08	591	0.2	-1.8	-2.0	34	16.72
11-21-may	7:05:08	591	3.9	2.2	-1.7	34	16.70
11-21-may	8:05:08	591	9.5	8.4	-1.1	36	16.71
11-21-may	9:05:08	591	12.6	12.9	0.3	37	16.72
11-21-may	10:05:08	590	13.4	14.3	0.9	37	16.72
11-21-may	11:05:08	591	14.4	15.3	0.9	37	16.71
11-21-may	12:05:08	591	15.1	15.9	0.8	38	16.70
11-21-may	13:05:08	590	16.1	16.7	0.6	38	16.71
11-21-may	14:05:08	590	16.7	17.7	1.0	38	16.72
11-21-may	15:05:08	590	17.0	18.2	1.2	39	16.71
11-21-may	16:05:08	590	16.5	17.3	0.8	38	16.71
11-21-may	17:05:08	590	16.5	17.4	0.9	38	16.71
11-21-may	18:05:08	590	15.3	15.5	0.2	38	16.71
11-21-may	19:05:08	590	14.0	13.7	-0.3	38	16.71
11-21-may	20:05:08	590	12.6	12.2	-0.3	38	16.71
11-21-may	21:05:08	590	10.8	10.4	-0.4	38	16.72
11-21-may	22:05:08	590	9.4	9.0	-0.5	38	16.71
11-21-may	23:05:08	590	8.1	7.3	-0.8	37	16.71

BGI PQ200 Air Sampling System

Downloaded 2011 30 may 11:05:03

Job Details:				Job Code: Site Name: 964C Station Code: Operators: KN User1: User2:	
Job Name: 11May30C.JOB Version: 5.62 Serial No: 964 Pump Time: 414:16 Flags:					
BP	Max 592	Min 584	Avg 588	Units mmHg	
TA	15.3	0.5	8.5	°C	
Q	---	---	16.71	Lpm	
				Timer Information:	
				Date dd-mmm Start: 11-24-may Stop: 11-25-may	Time hh:mm:ss 0:00:08
				ET: 23:59	
				Mass Concentration Data:	
				Filter ID: 8	
				Final Wt:	mg
				Initial Wt:	mg
				Delta Wt: 0.000	mg
				Total Vol: 24.04	m^3
				Mass Conc: 0	µg/m3
Notes 1: Notes 2:					
<p>Temps, °C</p> <p>TA</p> <p>TF</p> <p>Elapsed Time, Hrs</p>					
<p>Overheat, TF - TA, °C</p> <p>Elapsed Time, Hrs</p>					
<p>SP, cmH2O</p> <p>Elapsed Time, Hrs</p>					

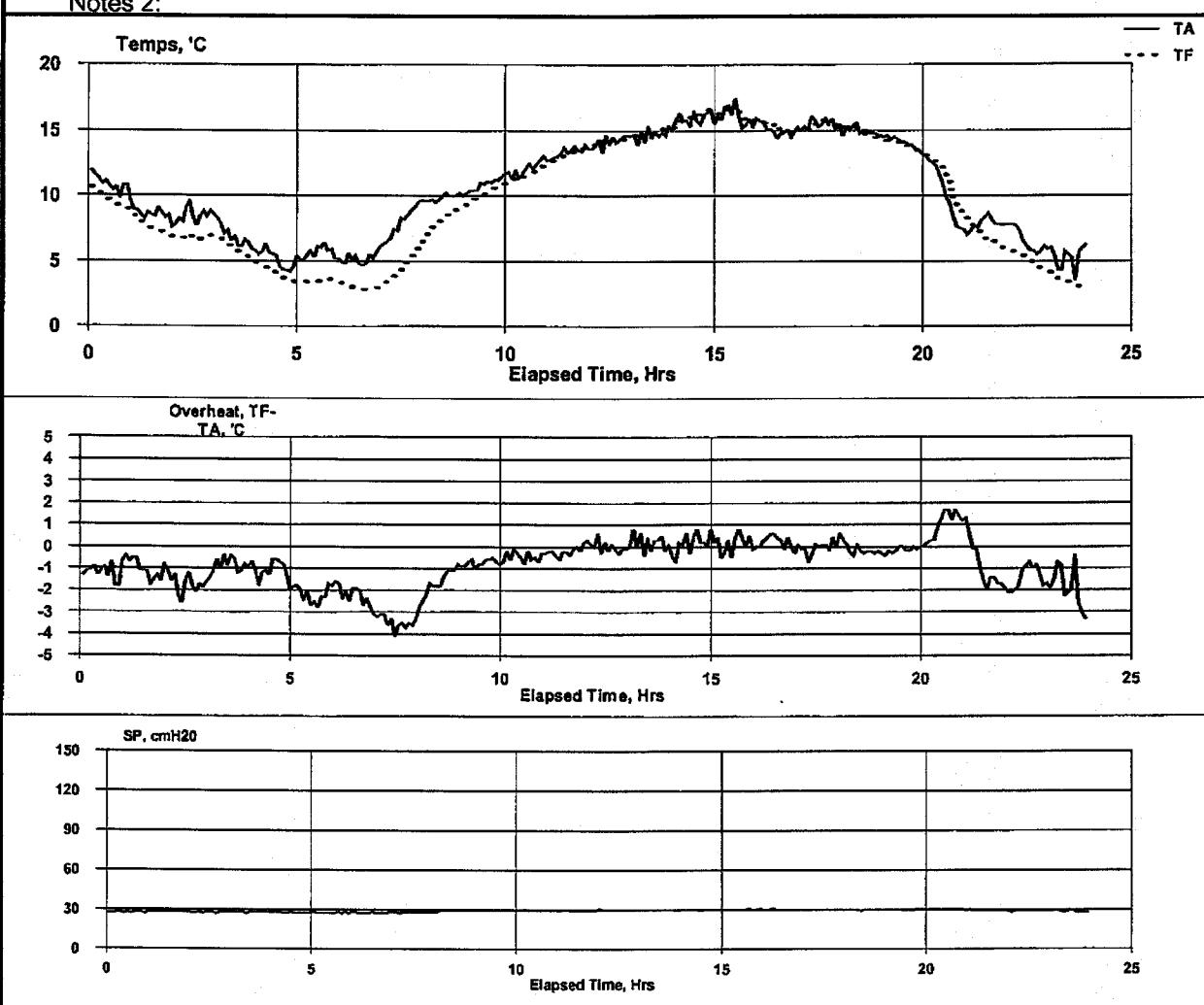
Hourly

11-24-may	0:05:08	587	6.6	5.5	-1.1	33	16.72
11-24-may	1:05:08	586	5.7	4.5	-1.2	33	16.73
11-24-may	2:05:08	586	5.1	3.5	-1.6	33	16.71
11-24-may	3:05:08	586	4.2	3.1	-1.1	33	16.71
11-24-may	4:05:08	586	2.8	1.7	-1.1	32	16.71
11-24-may	5:05:08	586	2.1	0.7	-1.4	33	16.72
11-24-may	6:05:08	587	1.1	-0.2	-1.3	32	16.68
11-24-may	7:05:08	587	4.6	2.9	-1.8	33	16.71
11-24-may	8:05:08	587	8.8	7.9	-0.9	34	16.71
11-24-may	9:05:08	588	11.2	11.5	0.3	35	16.71
11-24-may	10:05:08	588	12.3	13.3	1.1	36	16.71
11-24-may	11:05:08	588	12.9	13.4	0.6	36	16.71
11-24-may	12:05:08	588	13.6	14.6	1.0	36	16.71
11-24-may	13:05:08	589	12.3	13.1	0.8	36	16.72
11-24-may	14:05:08	590	10.1	11.4	1.4	36	16.72
11-24-may	15:05:08	590	10.0	10.5	0.5	36	16.71
11-24-may	16:05:08	589	12.0	12.4	0.4	36	16.71
11-24-may	17:05:08	589	12.0	12.5	0.5	36	16.72
11-24-may	18:05:08	590	12.3	12.7	0.4	36	16.71
11-24-may	19:05:08	590	11.9	12.0	0.1	36	16.72
11-24-may	20:05:08	590	9.9	9.8	-0.1	36	16.72
11-24-may	21:05:08	591	7.2	6.3	-0.9	35	16.71
11-24-may	22:05:08	591	6.5	4.7	-1.9	35	16.71
11-24-may	23:05:08	591	6.9	4.8	-2.1	34	16.71

BGI PQ200 Air Sampling System

Downloaded 2011 03 jun 09:50:08

Job Details:				Job Code: Site Name: 964C Station Code: Operators: KN User1: User2:
Job Name: 11Jun03C.JOB Version: 5.62 Serial No: 964 Pump Time: 438:15 Flags:				
BP	Max 590	Min 586	Avg 589	Units mmHg
TA	17.5	3.2	10.7	°C
Q	---	---	16.71	Lpm
QCV	0.57 %			
Max overheat 2 °C occurred 02-jun 20:34:49				
ET: 23:59				
				Mass Concentration Data:
				Filter ID: 11 mg
				Final Wt: mg
				Initial Wt: mg
				Delta Wt: 0.000 mg
				Total Vol: 24.041 m³
				Mass Conc: 0 µg/m³
Notes 1:				
Notes 2:				



Hourly

11-02-jun	0:05:08	589	10.8	9.6	-1.2	28	16.70
11-02-jun	1:05:08	589	8.5	7.5	-1.0	28	16.72
11-02-jun	2:05:08	589	8.5	6.7	-1.7	28	16.70
11-02-jun	3:05:08	589	6.7	5.9	-0.9	28	16.72
11-02-jun	4:05:08	589	5.1	4.0	-1.1	27	16.71
11-02-jun	5:05:08	589	5.6	3.4	-2.2	27	16.71
11-02-jun	6:05:08	589	5.2	3.0	-2.3	27	16.72
11-02-jun	7:05:08	589	8.0	4.6	-3.5	28	16.70
11-02-jun	8:05:08	589	9.9	8.2	-1.7	29	16.71
11-02-jun	9:05:08	589	10.9	10.2	-0.7	29	16.71
11-02-jun	10:05:08	590	12.1	11.7	-0.5	29	16.71
11-02-jun	11:05:08	590	13.4	13.2	-0.2	30	16.72
11-02-jun	12:05:08	590	14.2	14.2	0.0	30	16.72
11-02-jun	13:05:08	590	14.7	14.9	0.2	30	16.71
11-02-jun	14:05:08	590	15.9	16.1	0.2	30	16.71
11-02-jun	15:05:08	590	16.1	16.2	0.1	30	16.72
11-02-jun	16:05:08	589	15.0	15.2	0.2	30	16.71
11-02-jun	17:05:08	589	15.5	15.4	-0.1	30	16.71
11-02-jun	18:05:08	589	15.0	14.9	-0.1	30	16.71
11-02-jun	19:05:08	589	14.0	13.9	-0.2	30	16.71
11-02-jun	20:05:08	589	10.3	11.3	1.0	30	16.69
11-02-jun	21:05:08	589	7.8	6.9	-0.9	29	16.71
11-02-jun	22:05:08	590	6.5	5.1	-1.4	29	16.71
11-02-jun	23:05:08	590	5.2	3.4	-1.9	28	16.71

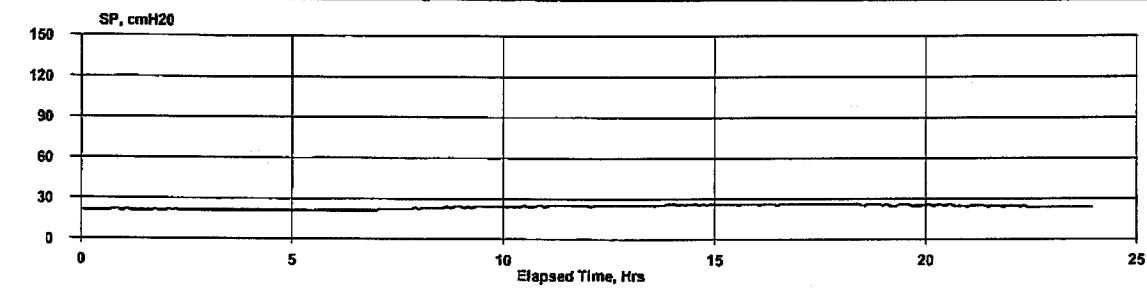
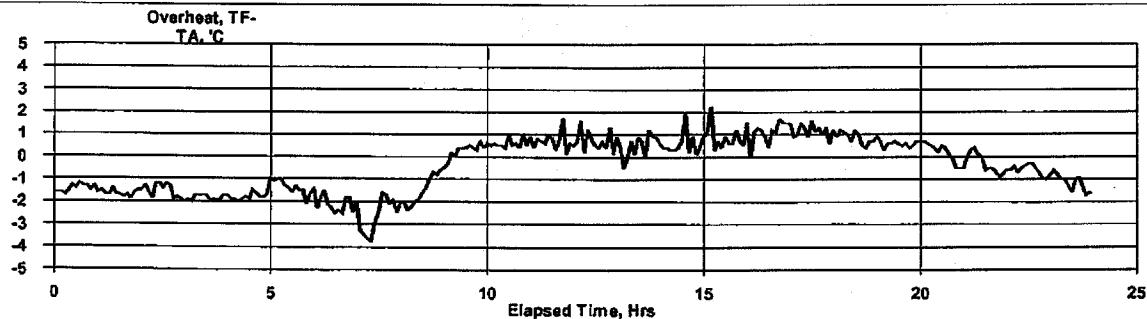
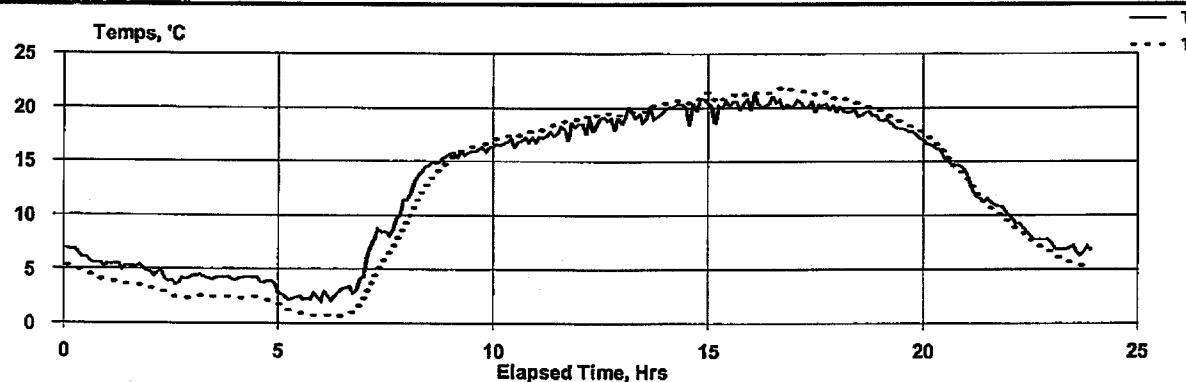
BGI PQ200 Air Sampling System

Downloaded 2011 09 jun 10:47:43

Job Details:				Job Code: Site Name: 964C Station Code: Operators: KN User1: User2:
Job Name: 11Jun09C.JOB Version: 5.62 Serial No: 964 Pump Time: 462:14 Flags:				
BP	Max 590	Min 587	Avg 589	Units mmHg
TA	21.9	1.9	12.6	°C
Q	---	---	16.7	Lpm
QCV	0.51 %			
Max overheat 2.5 °C occured 08-jun 14:34:29				
				ET: 23:59
				Mass Conc: 0 µg/m³

Notes 1:

Notes 2:



Hourly

11-08-jun	0:05:08	589	6.0	4.6	-1.4	21	16.72
11-08-jun	1:05:08	589	5.2	3.6	-1.6	21	16.72
11-08-jun	2:05:08	589	4.2	2.6	-1.6	21	16.71
11-08-jun	3:05:08	589	4.2	2.4	-1.8	21	16.71
11-08-jun	4:05:08	589	4.0	2.2	-1.7	21	16.71
11-08-jun	5:05:08	589	2.4	1.0	-1.4	21	16.71
11-08-jun	6:05:08	589	3.1	1.0	-2.1	21	16.71
11-08-jun	7:05:08	589	8.8	6.2	-2.6	22	16.71
11-08-jun	8:05:08	589	14.4	13.0	-1.4	23	16.71
11-08-jun	9:05:08	590	15.9	16.3	0.3	24	16.71
11-08-jun	10:05:08	590	16.8	17.4	0.6	24	16.72
11-08-jun	11:05:08	589	17.8	18.4	0.7	25	16.71
11-08-jun	12:05:08	589	18.6	19.3	0.7	25	16.71
11-08-jun	13:05:08	589	19.4	19.9	0.5	25	16.71
11-08-jun	14:05:08	589	20.1	20.7	0.6	26	16.72
11-08-jun	15:05:08	589	20.1	21.0	0.9	26	16.72
11-08-jun	16:05:08	589	20.4	21.6	1.1	26	16.71
11-08-jun	17:05:08	589	20.2	21.3	1.1	26	16.71
11-08-jun	18:05:08	589	19.5	20.4	0.9	26	16.71
11-08-jun	19:05:08	589	18.0	18.6	0.6	25	16.71
11-08-jun	20:05:08	589	15.4	15.6	0.1	25	16.71
11-08-jun	21:05:08	590	11.3	11.0	-0.3	25	16.70
11-08-jun	22:05:08	590	8.3	7.7	-0.6	24	16.71
11-08-jun	23:05:08	590	6.8	5.7	-1.2	24	16.71

BGI PQ200 Air Sampling System

Downloaded 2011 17 jun 21:22:48

Job Details:				Job Code: Site Name: 964C Station Code: Operators: kn User1: User2:
Job Name: 11Jun17C.JOB Version: 5.62 Serial No: 964 Pump Time: 486:13 Flags:				
BP	Max 595	Min 591	Avg 593	Units mmHg
TA	28.4	6.4	17.5	°C
Q	---	---	16.71	Lpm
QCV	0.54 %			
Max overheat 3.3 °C occured 15-jun 21:03:22				
				ET: 23:59
				Mass Conc: 0 µg/m3
Notes 1: Notes 2:				
<p>Temps, °C</p> <p>Elapsed Time, Hrs</p> <p>Legend: TA (solid line), TF (dashed line)</p>				
<p>Overheat, TF - TA, °C</p> <p>Elapsed Time, Hrs</p>				
<p>SP, cmH2O</p> <p>Elapsed Time, Hrs</p>				

Hourly

11-14-jun	0:05:08	593	10.0	8.2	-1.8	24	16.71
11-14-jun	1:05:08	593	8.5	7.2	-1.2	24	16.72
11-14-jun	2:05:08	593	7.6	6.4	-1.2	24	16.71
11-14-jun	3:05:08	593	7.4	5.9	-1.5	24	16.71
11-14-jun	4:05:08	593	7.1	5.4	-1.7	24	16.71
11-14-jun	5:05:08	594	7.1	5.4	-1.7	24	16.71
11-14-jun	6:05:08	594	7.5	5.6	-1.9	25	16.71
11-14-jun	7:05:08	594	12.6	10.2	-2.3	25	16.71
11-14-jun	8:05:08	594	17.6	16.3	-1.3	26	16.70
11-14-jun	9:05:08	595	21.0	21.3	0.3	27	16.71
11-14-jun	10:05:08	595	22.4	24.0	1.6	28	16.71
11-14-jun	11:05:08	595	23.6	25.2	1.5	29	16.71
11-14-jun	12:05:08	595	23.6	24.9	1.4	29	16.71
11-14-jun	13:05:08	594	24.7	25.9	1.2	29	16.72
11-14-jun	14:05:08	594	25.7	26.8	1.1	29	16.71
11-14-jun	15:05:08	594	26.2	27.9	1.6	30	16.70
11-14-jun	16:05:08	593	26.8	28.1	1.3	30	16.71
11-14-jun	17:05:08	593	26.3	27.5	1.2	29	16.71
11-14-jun	18:05:08	593	26.0	26.7	0.8	29	16.70
11-14-jun	19:05:08	593	24.7	25.4	0.6	29	16.71
11-14-jun	20:05:08	593	20.9	21.9	1.0	29	16.71
11-14-jun	21:05:08	593	15.5	15.7	0.2	29	16.71
11-14-jun	22:05:08	594	13.4	12.4	-1.0	28	16.72
11-14-jun	23:05:08	593	12.2	11.0	-1.2	28	16.71

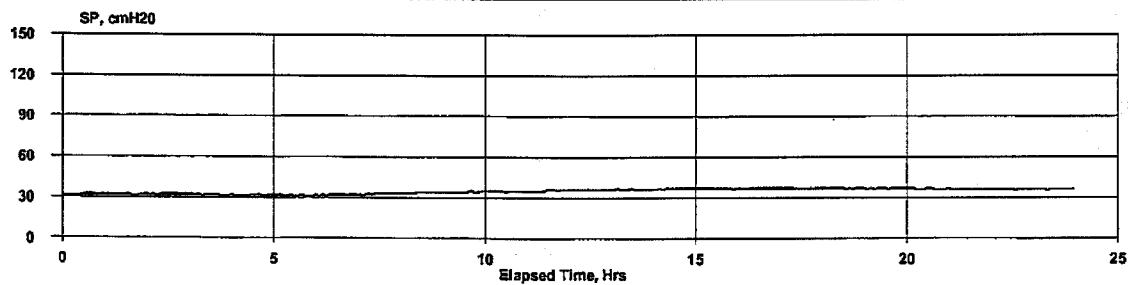
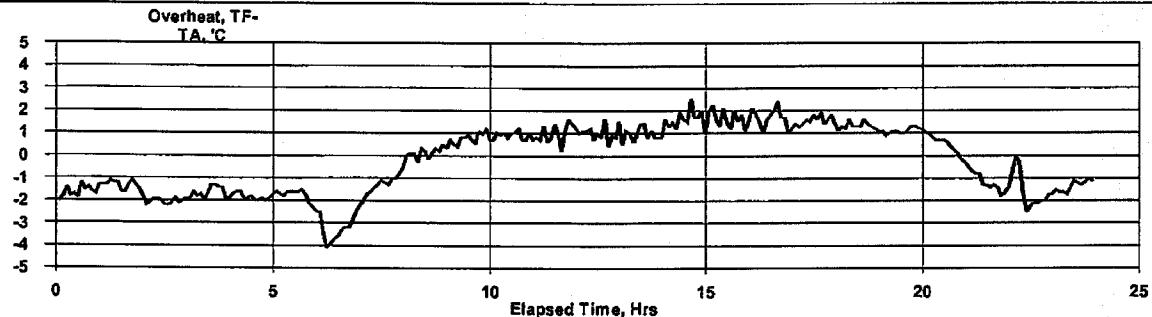
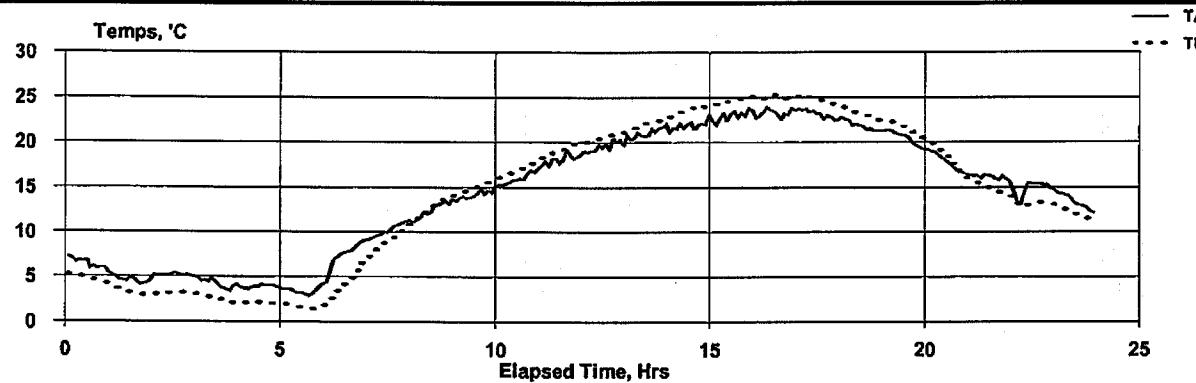
BGI PQ200 Air Sampling System

Downloaded 2011 21 jun 10:41:43

Job Details:				Job Code: Site Name: 964c Station Code: Operators: kn User1: User2:
Job Name: 11Jun21C.JOB Version: 5.62 Serial No: 964 Pump Time: 510:12 Flags:				
BP	Max 592	Min 587	Avg 589	Units mmHg
TA	24.8	2.8	14.3	°C
Q	--	--	16.7	Lpm
QCV	0.53 %			
Max overheat 2.7 °C occured 20-jun 15:41:16				
				Timer Information:
				Date dd-mmm Start: 11-20-jun Time: 0:00:08
				Stop: 11-21-jun 0:00:04
				ET: 23:59
				Mass Concentration Data:
				Filter ID: 8 mg
				Final Wt: mg
				Initial Wt: mg
				Delta Wt: 0.000 mg
				Total Vol: 24.042 m^3
				Mass Conc: 0 µg/m3

Notes 1:

Notes 2:



Hourly

11-20-jun	0:05:08	589	6.4	4.8	-1.6	32	16.71
11-20-jun	1:05:08	589	4.6	3.3	-1.4	32	16.71
11-20-jun	2:05:08	589	5.2	3.1	-2.0	32	16.71
11-20-jun	3:05:08	589	4.2	2.5	-1.7	32	16.71
11-20-jun	4:05:08	589	3.9	2.0	-1.8	31	16.71
11-20-jun	5:05:08	589	3.4	1.6	-1.8	31	16.72
11-20-jun	6:05:08	589	7.5	4.3	-3.2	32	16.71
11-20-jun	7:05:08	590	10.3	9.0	-1.2	33	16.71
11-20-jun	8:05:08	590	12.5	12.6	0.1	34	16.71
11-20-jun	9:05:08	590	14.2	15.0	0.8	34	16.71
11-20-jun	10:05:08	590	16.0	16.9	0.9	35	16.71
11-20-jun	11:05:08	590	18.2	19.2	1.0	36	16.71
11-20-jun	12:05:08	590	19.5	20.6	1.0	36	16.71
11-20-jun	13:05:08	590	21.1	22.0	0.9	36	16.71
11-20-jun	14:05:08	590	21.9	23.5	1.6	37	16.71
11-20-jun	15:05:08	590	23.0	24.6	1.7	37	16.72
11-20-jun	16:05:08	590	23.3	24.9	1.7	37	16.71
11-20-jun	17:05:08	590	23.1	24.7	1.6	37	16.71
11-20-jun	18:05:08	590	21.9	23.2	1.3	37	16.70
11-20-jun	19:05:08	590	20.5	21.6	1.1	37	16.71
11-20-jun	20:05:08	591	17.8	18.3	0.5	36	16.71
11-20-jun	21:05:08	591	16.1	14.9	-1.2	36	16.70
11-20-jun	22:05:08	591	14.8	13.2	-1.6	36	16.71
11-20-jun	23:05:08	592	13.4	12.1	-1.3	36	16.72

BGI PQ200 Air Sampling System Downloaded 2011-27 jun. 09:38:49

Job Details:				Job Code: 964C												
Job Name: 11Jun27C.JOB				Site Name:												
Version: 5.62				Station Code:												
Serial No: 964				Operators: KN												
Pump Time: 1790:15				User1:												
Flags: Q T				User2:												
BP	Max 590	Min 588	Avg 588	Units mmHg												
TA	11.8	11.1	11.8	°C												
Q	---	---	0	Lpm												
QCV 0 %																
Max overheat 2.9 °C occured 26-jun 20:57:07																
Timer Information: <table border="1"> <tr> <td>Date dd-mmm</td> <td>Time hh:mm:ss</td> </tr> <tr> <td>Start: 11-26-jun</td> <td>0:00:08</td> </tr> <tr> <td>Stop: 11-27-jun</td> <td>0:00:05</td> </tr> <tr> <td>ET:</td> <td>0:03</td> </tr> </table>					Date dd-mmm	Time hh:mm:ss	Start: 11-26-jun	0:00:08	Stop: 11-27-jun	0:00:05	ET:	0:03				
Date dd-mmm	Time hh:mm:ss															
Start: 11-26-jun	0:00:08															
Stop: 11-27-jun	0:00:05															
ET:	0:03															
Mass Concentration Data: <table border="1"> <tr> <td>Filter ID: 11</td> <td>mg</td> </tr> <tr> <td>Final Wt:</td> <td>mg</td> </tr> <tr> <td>Initial Wt:</td> <td>mg</td> </tr> <tr> <td>Delta Wt: 0.000</td> <td>mg</td> </tr> <tr> <td>Total Vol: 0.012</td> <td>m^3</td> </tr> <tr> <td>Mass Conc:</td> <td>0 µg/m3</td> </tr> </table>					Filter ID: 11	mg	Final Wt:	mg	Initial Wt:	mg	Delta Wt: 0.000	mg	Total Vol: 0.012	m^3	Mass Conc:	0 µg/m3
Filter ID: 11	mg															
Final Wt:	mg															
Initial Wt:	mg															
Delta Wt: 0.000	mg															
Total Vol: 0.012	m^3															
Mass Conc:	0 µg/m3															
Notes 1: Notes 2:																

Hourly

yy-dd-mmm	hh:mm:ss	mmHg	°C	°C	°C	cmH2O	aLpm

APPENDIX C

Precision and Single-Point Flow Rate Checks



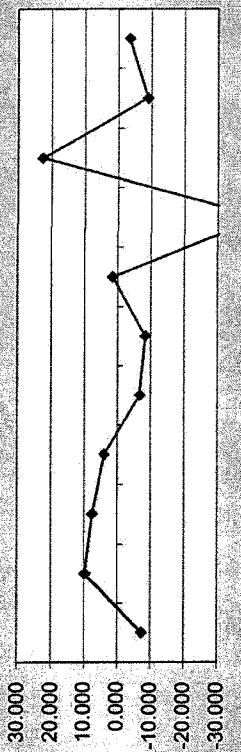
Precision Estimate (From Collocated Samples)

Site ID: {Enter Site ID}	Pollutant type:						CV _{obs} (%)
	Meas Val (X)	Audit Val (Y)	d (Eqn 10)	25th Percentile	d ²	d ²	
36.8	39.6	-7.330	-7.871	53.727	7.330	53.727	
65.4	59.3	9.783	75th Percentile	95.716	9.783	95.716	
28.7	26.6	7.595	5.800	57.983	7.595	57.983	
71.3	68.5	4.006		16.046	4.006	16.046	
4.3	4.6	-6.742		45.449	6.742	45.449	
20.5	22.3	-8.411		70.749	8.411	70.749	
6.6	6.5	1.527		2.331	1.527	2.331	
38.9	60.4	-43.303		1875.160	43.303	1875.160	
62.1	49.5	22.581		509.886	22.581	509.886	
23.5	25.7	-8.933		79.979	8.943	79.979	
17.3	17.9	-3.409		11.622	3.409	11.622	

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[Print Worksheet](#)

Percent Differences



← %D

One-Point Flow Rate Bias Estimate

Site ID: {Monitor 962A}

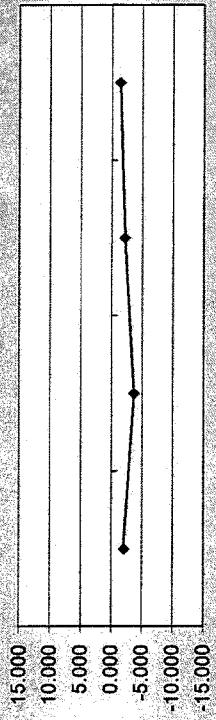
Site ID: {Monitor 962A}		Pollutant type:					
Meas Val (X)	Audit Val (Y)	d (Eqn. 1)	25th Percentile	d^2	d	$ d ^2$	Bias (%)
16.72	17.07	-2.050	-2.546	4.204	2.050	4.204	
16.7	17.34	-3.691	75th Percentile	13.623	3.691	13.623	
16.2	17.09	-2.165	-1.877	4.687	2.165	4.687	"AB" (Eqn 4) 2.316
16.7	16.93	-1.359		1.846	1.359	1.846	"AS" (Eqn 5) 0.983
				3	24.360	3	

Bias (%) (Eqn 3)	Both Signs Positive 3.47
Signed Bias (%)	Both Signs Negative 3.47

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[Print Worksheet](#)

Percent Differences



→ %D

One-Point Flow Rate Bias Estimate

Site ID: {Monitor 963B}		Pollutant type:
Meas Val (X)	Audit Val (Y)	d (Eqn. 1)
16.7	16.85	-0.890
16.7	16.98	-1.649
16.7	16.79	-0.536
		-0.713

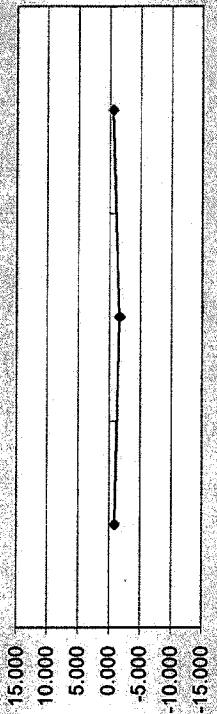
25th Percentile	d^2	$ d $	$ d ^2$
-1.270	0.792	0.890	0.792
2.719	2.719	1.649	2.719
0.287	0.287	0.536	0.287
n-1	n	$\sum d $	"AB" (Eqn 4)
2	3	3.075	1.025
		$\sum d ^2$	"AS" (Eqn 5)
		3.799	0.569

Bias (%) (Eqn 3)	Both Signs Positive
1.98	FALSE
Signed Bias (%)	Both Signs Negative
-1.98	TRUE

[Return to Main Menu](#)

[Print Worksheet](#)

Percent Differences



→ %D

One-Point Flow Rate Bias Estimate

Site ID: {Monitor 964C}

Meas Val (X)	True Val (Y)	Pollutant type:
16.7	16.76	d (Eqn. 1)
16.7	16.98	25th Percentile
16.7	16.78	-0.358
		-1.063
		2.719
		1.649
		0.227
		0.477
		-0.417
		-0.477

"AB" (Eqn 4)
"AS" (Eqn 5)

0.128
0.358
 $\sum |d|$
 n

2.719
2.484
 $\sum |d|^2$
 $n-1$

0.227
3
 $n-2$

0.477
3.075
0.714

0.227
3
 $n-1$

0.477
3.075
0.714

0.227
3
 $n-2$

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Percent Differences

15.000
10.000
5.000
0.000
-5.000
-10.000
-15.000

→ %D

APPENDIX D

Field Data Sheets



Background Monitor 962A

962A

Table I - Every 6th Day Sampling

3734

Claim #
~~500652657~~
~~Wade Orchard~~

~~FJC by unites~~

~~888-253-7834~~

~~001658634~~

Monthly Flow Rate Verification

A

Table I - Leak Test

Table II - Flow Rate Verification

Accuracy = Monitor Flow Value - Delta Cal Flow (Qa) x 100
 Delta Cal Flow (Qa)

$$\begin{array}{r} 7.09 \\ 16.22 \\ \hline 1.37 \end{array} \qquad \begin{array}{r} 16.93 \\ 16.70 \\ \hline 2.3 \end{array}$$

Compliance Monitor 963B

963B

Table I - Every 6th Day Sampling

Monthly Flow Rate Verification

Table I - Leak Test

Table II - Flow Rate Verification

Accuracy = $\frac{\text{Monitor Flow Value} - \Delta \text{Cal Flow (Qa)}}{\Delta \text{Cal Flow (Qa)}}$ x 100

Collocated Monitor 964C

964C

Table 1 - Every 6th Day Sampling

Monthly Flow Rate Verification

964. C

Table I - Leak Test

Table II - Flow Rate Verification

$$\text{Accuracy} = \frac{\text{Monitor Flow Value} - \Delta \text{Cal Flow (Qa)}}{\Delta \text{Cal Flow (Qa)}} \times 100$$

APPENDIX E

Independent PM₁₀ Sampler Performance Audit Report

**ALTON COAL DEVELOPMENT
PM₁₀ SAMPLER AUDIT REPORT
Date: July 12, 2011**

Prepared for:

Alton Coal Development
463 North 100 West, Suite 1
Cedar City, UT
Contact: Kirk Nicholes

Prepared by:

Applied Environmental Consultants
1553 W. Elna Rae, Ste. 101
Tempe, Arizona 85281
Contact: Thitipong (Jeep) Chindavijak
480.829.0457

JULY 29, 2011

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1. INTRODUCTION

This report summarizes the results of the audit of the three BGI PQ200 Samplers (measuring PM₁₀) for the Alton Coal Development (Alton) Monitoring Stations near the Coal Hollow Surface Coal Mine. The audit was conducted by Applied Environmental Consultants (AEC) on July 12, 2011 at both stations. The Compliance Monitoring Station (963B) and the Collocated Monitoring Station (964C) are located near the road, northwest of the Alton property. The Background-A Monitoring Station is located to the northeast, well beyond the property boundary.

The Alton particulate matter monitoring system consists of two collocated BGI PQ200 to collect PM₁₀ samples at the Primary Station, and one BGI PQ200 to collect PM₁₀ samples at the Background-A Station. The sampler inlets are located approximately 3 meters above the ground. The BGI PQ200 samplers are designed to operate at a flow rate of 16.7 actual liters per minute (alpm). All three samplers must meet flow rate criteria in relation to the design flow rate and the flow rate reported by an NIST-traceable device.

2. AUDIT PROCEDURES

The purpose of the audit is to determine the accuracy of the PM₁₀ monitoring systems. Audit criteria and detailed audit procedures are presented below.

2.1 AUDIT CRITERIA

The audit criteria and applicable guidelines used to evaluate the PM₁₀ monitoring systems are presented in Table 2.1.

2.2 BGI PQ200 SAMPLERS

The audit is performed according to the guidelines described in the *EPA Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II, Ambient Air Quality Monitoring Program, December 2008*, and the *PQ200 Instruction Manual, Section 3*. The audit employs a BGI deltaCal audit thermometer, barometer, and flow device with an audit traceable to NIST standards. An audit certificate for the device is located in Appendix B.

The audit consists of a general inspection of the physical condition of the equipment, followed by four audit procedures:

- ambient temperature sensor check
- filter temperature sensor check
- barometric pressure sensor check
- flow rate check

These procedures are discussed in Sections 2.2.1 through 2.2.4 below.

2.2.1 *Ambient Temperature Sensor Check*

The deltaCal was previously certified to an NIST-traceable (see Appendix B). The sampler flow inlet was removed and replaced with the deltaCal inlet. A paired measurement on the audit device and the sampler were taken. The absolute error of the sensor response was then calculated. The difference was within 2°C, indicating that the sensor is working properly.

2.2.2 *Filter Temperature Sensor Check*

The filter temperature sensor check compared the filter temperature, measured by the sampler, with the filter temperature measured with the transfer standard. The temperature probe (attached to the deltaCal) was inserted into the filter compartment and the temperature was allowed to stabilize. A paired measurement on the audit device and the sampler were taken. The absolute error of the sensor response was then calculated. The difference was within 2°C, indicating that the sensor is working properly.

2.2.3 *Pressure Sensor Check*

The deltaCal inlet was installed on the sampler, as with the ambient temperature sensor check. A paired measurement on the audit device and the sampler were taken. The difference was within 10 mm Hg, indicating that the sensor is working properly.

2.2.4 *Flow Rate Check*

The flow rate check compares the actual flow rate of the sampler, measured by the deltaCal, with the flow rate measured by the sampler.

The first step of the audit flow rate check was to install a clean filter. This was followed by removal of the sampler inlet and the installation of the deltaCal inlet (as with the ambient temperature and pressure sensor checks). The sampler was turned on and allowed to warm up for 5 minutes. After the motor reached its normal operating temperature, the flow rate reported by the deltaCal and the sampler were recorded.

A paired measurement of the flow rate reported by the deltaCal, Q_{TS} , and the sampler, Q_S , were compared. The absolute error of the sensor response was then calculated. Q_S was within 4% of Q_{TS} , indicating that the sampler is working properly.

Table 2.1 Performance Audit Criteria

Parameter	Method	Reference	Limit(s)
BGI PQ200			
1. Temperature	Stable mass comparison with NIST-traceable thermometer.	Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II	± 2.0 °C temperature error
2. Barometric Pressure	Single-point comparison with NIST-traceable audit barometer.	Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II	≤ 10 mm Hg error
3. Flow Rate	Flow comparison with NIST-traceable calibrator.	Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II	± 4% flow error

3. SUMMARY AUDIT RESULTS

The results of the audit are presented in Table 3.1. The audit worksheets are included in Appendix A. These values are within the acceptable range described in Section 2.

Alton personnel perform regularly scheduled maintenance on the samplers, including regular cleaning of the inlet.

Table 3.1 Audit Results

Criteria	Pass/Fail	deltaCal	Sampler	Difference	Pass/Fail	deltaCal	Sampler	Difference	Pass/Fail
Compliance Monitor (963B)								Collocated Monitor (964C)	
Temperature (°C)									
Inlet	<±2	22.3	22.1	0.2	Pass	22.1	21.4	0.7	Pass
Filter	<±2	23.0	22.3	0.7	Pass	22.3	21.6	0.7	Pass
Pressure (mmHg)	≤10	594	593	1	Pass	594	593	1	Pass
Flow Rate (LPM)	<±4%	16.70	16.11	-3.5%	Pass	16.32	16.70	2.3%	Pass
Background Monitor (962A)								Background-A Monitoring Site	
Temperature (°C)									
Inlet	<±2	19.7	18.5	1.2	Pass				
Filter	<±2	21.5	20.7	0.8	Pass				
Pressure (mmHg)	≤10	588	587	1	Pass				
Flow Rate (LPM)	<±4%	16.70	16.70	0.0%	Pass				

N/A: Not Applicable

APPENDIX A

SAMPLER AUDIT WORKSHEETS

BGI PQ200 PM₁₀ & PM_{2.5} SAMPLER AUDIT REPORT FORM

Part A: General Information

Project Name:	Alton	Date:	7/12/2011
Site ID:	Primary	Sampler SN:	963B
Location:	Primary	Technician:	Thitipong Chindavijak

Test Device Make / Model:	BGI / deltaCal	SN:	844
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Current Date:	7/12/2011	Current Time:	12:37	Sampler Date:	7/12/2011	Sampler Time:	12:37
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Part B: Temperature Sensor Calibration

Audit Test Point	Reference Thermometer °C		Sampler Temperature °C		Difference (Ref - Sample) °C		Pass/Fail	
	Inlet	Filter	Inlet	Filter	Inlet	Filter	Inlet	Filter
1	22.3	23.0	22.1	22.3	0.2	0.7	PASS	PASS

Part C: Barometric Pressure Sensor Calibration

Audit Test Point	Reference Pressure mmHg	Sampler Pressure mmHg	Difference (Ref - Sample) mmHg	Pass/Fail
1	594	593	1	PASS

Part D: Sampler Flow Rate Calibration

(Note: Complete the Temp. and Press. cal's PRIOR to the Flow Rate cal.)

Leak Check Passed?	Passed
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Audit Test Point	Reference Flow Rate LPM	Sampler Flow Rate LPM	Difference (Ref - Sample) LPM	Pass/Fail
1	16.70	16.11	0.59	PASS

Notes / Comments:

BGI PQ200 PM₁₀ & PM_{2.5} SAMPLER AUDIT REPORT FORM

Part A: General Information

Project Name:	Alton	Date:	7/12/2011
Site ID:	Collocated	Sampler SN:	964C
Location:	Collocated	Technician:	Thitipong Chindavijak
Test Device Make / Model:		SN:	844
Current Date:	7/12/2011	Current Time:	12:22

Current Date:	7/12/2011	Current Time:	12:22	Sampler Date:	7/12/2011	Sampler Time:	12:22
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Part B: Temperature Sensor Calibration

Audit Test Point	Reference Thermometer °C		Sampler Temperature °C		Difference (Ref - Sample) °C		Pass/Fail	
	Inlet	Filter	Inlet	Filter	Inlet	Filter	Inlet	Filter
1	22.1	22.3	21.4	21.6	0.7	0.7	PASS	PASS

Part C: Barometric Pressure Sensor Calibration

Audit Test Point	Reference Pressure mmHg	Sampler Pressure mmHg	Difference (Ref - Sample) mmHg	Pass/Fail
1	594	593	1	PASS

Part D: Sampler Flow Rate Calibration

(Note: Complete the Temp. and Press. calcs PRIOR to the Flow Rate cal.)

Leak Check Passed?	Passed
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Audit Test Point	Reference Flow Rate LPM	Sampler Flow Rate LPM	Difference (Ref - Sample) LPM	Pass/Fail
1	16.32	16.70	-0.38	PASS

Notes / Comments:

BGI PQ200 PM₁₀ & PM_{2.5} SAMPLER AUDIT REPORT FORM

Part A: General Information

Project Name:	Alton	Date:	7/12/2011
Site ID:	Background-A	Sampler SN:	962A
Location:	Background-A	Technician:	Thitipong Chindavijak

Test Device Make / Model:	BGI / deltaCal	SN:	844
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Current Date:	7/12/2011	Current Time:	11:41	Sampler Date:	7/12/2011	Sampler Time:	11:41
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Part B: Temperature Sensor Calibration

Audit Test Point	Reference Thermometer °C		Sampler Temperature °C		Difference (Ref - Sample) °C		Pass/Fail	
	Inlet	Filter	Inlet	Filter	Inlet	Filter	Inlet	Filter
1	19.7	21.5	18.5	20.7	1.2	0.8	PASS	PASS

Part C: Barometric Pressure Sensor Calibration

Audit Test Point	Reference Pressure mmHg	Sampler Pressure mmHg	Difference (Ref - Sample) mmHg	Pass/Fail
1	588	587	1	PASS

Part D: Sampler Flow Rate Calibration

(Note: Complete the Temp. and Press. cal's PRIOR to the Flow Rate cal.)

Leak Check Passed?	Passed
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Audit Test Point	Reference Flow Rate LPM	Sampler Flow Rate LPM	Difference (Ref - Sample) LPM	Pass/Fail
1	16.70	16.70	0.00	PASS

Notes / Comments:

APPENDIX B

CERTIFICATION DATA FOR DELTACAL

BGI INCORPORATED 58 GUINAN STREET WALTHAM, MA 02451
NIST Traceable Calibration Facility, ISO 9001:2008 Registered

deltaCal

CERTIFICATE OF CALIBRATION - NIST TRACEABILITY

(Refer to Instruction manual for further details of calibration)

deltaCal Serial Number: 000844

DATE 4-Jan-11

Calibration Operator: YI TIAN

Critical Venturi Flow Meter: Max Uncertainty = 0.346%

Serial Number: 1 CEESI NVLAP NIST Data File 01BGI002

Serial Number: 2 CEESI NVLAP NIST Data File 01BGI003

Serial Number: 4 CEESI NVLAP NIST Data File 02BGI004

Room Temperature : Uncertainty = 0.071% Room Temperature: 22.8 C

Brand: Ertco Serial Number: 9216

NIST Traceability No. 516837

deltaCal:

Ambient Temperature (set): 22.8 C

Aux (filter) Temperature (set): 22.8 C

Barometric Pressure and Absolute Pressure

Vaisala Model PTB330(50-1100) Digital Accuracy: 0.019%

S/N C4310002

NIST Traceable (Princo Primary Standard Model 453 S/N W12537) Certificate No. P-7485

deltaCal:

Barometric Pressure (set): 756.98 mm of Hg

Results of Venturi Calibration

Flow Rate (Q) vs. Pressure Drop (ΔP).

Where: Q=Lpm, ΔP = cm of H_2O

$$Q = 4.05402 \Delta P^{0.52248}$$

Overall Uncertainty: 0.35%

Date Placed In Service 1/13/11

(To be filled in by operator upon receipt)

Recommended Recalibration Date 1/13/12

(12 months from date placed in service)

Revised: June 2008

To Check a deltaCal
1.5-19.5 EVER256

4-Jan-11 YT

Mbar= 1009.22
mm of Hg 756.98

Maximum allowable error at any flow rate is .75%. Room Temp= 22.8 C
Serial No. 844

Venturi	Reading		Q	QA	QA	Delta Cal	% Error
	Abs. P MB	Abs. P mm of Hg					
#2	239.67	179.8	21.80	2.01	2.04	2.05	0.39
	687.74	515.8	21.80	5.87	5.95	5.93	-0.34
#1	341.91	256.5	21.80	10.12	10.26	10.19	-0.70
	462.97	347.3	21.80	13.76	13.95	13.91	-0.28
	626.16	469.7	21.80	18.67	18.92	18.98	0.32

Average % -0.12